Vitamin Overview

Vitamins are organic substances that are necessary for life. Vitamins aid in the process of body functioning. They are necessary for growth and vitality. Vitamin deficiencies can lead to diseases and conditions that become more difficult to treat.

**Vitamin B1 – Thiamine**
Absorbed through the intestines and is essential for breakdown of carbohydrates into simple glucose. Ensures proper functioning of the nervous system.

**Symptoms of Deficiency:**
- Confusion
- Constipation
- Irritability
- Loss of appetite
- Memory loss
- Nervousness
- Numbness of hands/feet
- Pain sensitivity
- Poor coordination
- Weakness

**Sources of Thiamine:**
- Whole grain cereals
- Bread
- Red meat
- Egg yolks
- Green leafy vegetables
- Legumes
- Berries

**Vitamin B12**
Stored in liver and aides in processing of carbohydrates, proteins and fats. Helps make red blood cells.

**Symptoms of Deficiency:**
- Mouth irritation/lesions
- Headaches
- Irritability
- Mental Disturbances
- Moodiness
- Numbness

**Sources of Vitamin B12:**
- Liver
- Meat
- Egg yolk
- Poultry
- Milk

Kids’ Corner

Is your child getting enough Vitamin D? Most Moms know that drinking milk and getting out in the sun is the best way to naturally increase Vitamin D. But, is that enough? Unfortunately not. Recent studies show that most kids and adolescents don't get enough Vitamin D. In October 2008, the American Academy of Pediatrics (AAP) responded by doubling the amount of vitamin D it recommends for children to 400 International Units (IU) per day.

**Vitamin D** promotes tooth and bone formation and regulates the absorption of minerals like calcium. Sunlight also contributes to dietary sources of vitamin D, stimulating the conversion of a naturally occurring compound in the skin to an active form of the vitamin.

Vitamin D is found naturally in only a few foods — they include oily fish, beef liver, cheese, and egg yolks. Oily (or fatty) fish are one of the best sources of the vitamin such as salmon, tuna, mackerel, trout, herring and orange roughy.

In addition to vitamin supplements, enriched foods are another way to increase the vitamin D in your child’s diet. Look for foods fortified with vitamin D such as milk, cereal, yogurt, and margarine.

If your child or adolescent does not get 400 IU of vitamin D per day through foods, talk to your primary care provider.
Vitamin Overview

Vitamin B9 – Folic Acid
Interacts with Vitamin B12 for the synthesis of DNA. Folic acid is produced by bacteria in the stomach and intestines. Necessary for breakdown of proteins and helps in formation of hemoglobin.

Symptoms of Deficiency:
- Anemia
- Diarrhea
- Fatigue
- Loss of appetite
- Headaches
- Neural tube defects in fetus
- Paranoia
- Shortness of Breath
- Weakness

Sources of Folic Acid:
- Yeast
- Liver
- Green vegetables
- Whole grain cereals

Vitamin D
Also known as calciferol. It's a vitamin that dissolves in the body's fat. Found in some food but mostly can be made by exposure to ultraviolet rays from the sun. Maintains normal blood levels of calcium and phosphorus, aides in the absorption of calcium, and helps in the formation of bones.

Symptoms of Deficiency:
- Burning sensation in mouth
- Diarrhea
- Insomnia
- Myopia
- Nervousness
- Osteomalacia (softening/weakening of the bones)
- Osteoporosis
- Scalp sweating

Sources of Vitamin D:
- Sunlight
- Fatty fish
- Fatty oils
- Milk

Vitamin A
Helps regulate the immune system – fights infection.

Symptoms of Deficiency:
- Acne
- Dry hair
- Growth impairment
- Insomnia
- Immune impairment
- Night blindness
- Weight loss

Sources of Vitamin A:
- Whole Eggs
- Whole Milk
- Liver
- Fortified cereals
- Darkly colored fruits and vegetables
Vitamin Overview

**Vitamin C**
Assists the body in production of collagen, acts as antioxidant, boosts the immune system, and lowers blood pressure and cardiovascular risk.

**Symptoms of Deficiency:**
- Bleeding gums
- Depression
- Easy Bruising
- Impaired wound healing
- Irritability
- Joint pain
- Loose teeth
- Tiredness

**Sources of Vitamin C:**
- Vegetables
- Fruits

**Vitamin E**
Deficiency is rare in humans but can occur; mostly occurs in persons who cannot absorb dietary fat. Helps prevent blood clots, lowers blood pressure.

**Symptoms of Deficiency:**
- Gait disturbances
- Poor reflexes
- Loss of position sense
- Loss of vibration sense

**Sources of Vitamin E:**
- Vegetable oils
- Nuts
- Green leafy vegetables
- Fortified cereals

Sources: Uphold and Graham Clinical Guidelines in Family Practice; 2003

*You should consult with your physician or other health care professional before starting an exercise or diet regimen to determine if it is right for your needs. This is particularly true if you have a history of high blood pressure, heart disease, or if you have experienced chest pain*