Folate: Folic Acid, Folacin

What is Folate?
Folate, also known as folic acid or folacin, aids in protein metabolism, promoting red blood cell formation, and lowering the risk for neural tube birth defects. Folate may also play a role in controlling homocysteine levels, thus reducing the risk for coronary heart disease.

Food Sources for Folate
Sources of folate include liver, kidney, dark green leafy vegetables, meats, fish, whole grains, fortified grains and cereals, legumes, and citrus fruits. Not all whole grain products are fortified with folate. Check the nutrition label to see if folic acid has been added.

How much Folate
The Recommended Dietary Allowance (RDA) for folate is 400 mcg/day for adult males and females. Pregnancy will increase the RDA for folate to 600 mcg/day.

Folate Deficiency
Folate deficiency affects cell growth and protein production, which can lead to overall impaired growth. Deficiency symptoms also include anemia and diarrhea. A folate deficiency in women who are pregnant or of child bearing age may result in the delivery of a baby with neural tube defects such as spina bifida.

Too much Folate
Over consumption of folate offers no known benefits, and may mask B12 deficiency as well as interfere with some medications.
Vitamin C

What is Vitamin C
The body needs vitamin C, also known as ascorbic acid or ascorbate, to remain in proper working condition. Vitamin C benefits the body by holding cells together through collagen synthesis; collagen is a connective tissue that holds muscles, bones, and other tissues together. Vitamin C also aids in wound healing, bone and tooth formation, strengthening blood vessel walls, improving immune system function, increasing absorption and utilization of iron, and acting as an antioxidant.

Since our bodies cannot produce or store vitamin C, an adequate daily intake of this nutrient is essential for optimum health. Vitamin C works with vitamin E as an antioxidant, and plays a crucial role in neutralizing free radicals throughout the body. An antioxidant can be a vitamin, mineral, or a carotenoid, present in foods, that slows the oxidation process and acts to repair damage to cells of the body. Studies suggest that vitamin C may reduce the risk of certain cancers, heart disease, and cataracts. Research continues to document the degree of these effects.

Food Sources for Vitamin C
Consuming vitamin C-rich foods is the best method to ensure an adequate intake of this vitamin. While many common plant foods contain vitamin C, the best sources are citrus fruits. For example, one orange, a kiwi fruit, 6 oz. of grapefruit juice or 1/3 cup of chopped sweet red pepper each supply enough vitamin C for one day.

How much Vitamin C
The Recommended Dietary Allowance (RDA) for Vitamin C is 90 mg/day for adult males and 75 mg/day for adult females. For those who smoke cigarettes, the RDA for vitamin C increases by 35 mg/day, in order to counteract the oxidative effects of nicotine.

Vitamin C Deficiency
Although rare in the United States, severe vitamin C deficiency may result in the disease known as scurvy, causing a loss of collagen strength throughout the body. Loss of collagen results in loose teeth, bleeding and swollen gums, and improper wound healing. More commonly, vitamin C deficiency presents as a secondary deficiency in alcoholics, the elderly, and in smokers.

The following conditions have been shown to increase vitamin C requirements:
- Environmental stress, such as air and noise pollution
- Use of certain drugs, such as oral contraceptives
- Tissue healing of wounds
- Growth (children from 0-12 months, and pregnant women)
- Fever and infection
- Smoking.

Too Much Vitamin C
Despite being a water-soluble vitamin that the body excretes when in excess, vitamin C overdoses have been shown to cause kidney stones, gout, diarrhea, and rebound scurvy.
Can Vitamin C Prevent the Common Cold?
The controversy over using mega doses of vitamin C to prevent or cure the common cold and other disorders has not been resolved. Recent studies have shown that an increased intake of vitamin C over 500 mg per day does not increase a body’s overall level of vitamin C. Therefore, intake over 500 mg per day may not result in any additional benefits from vitamin C.