

Are You Biotin Deficient?



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Biotin is listed in your multivitamin, but what does it do for you? Biotin is a water-soluble vitamin that is part of the B vitamins. It is required in a number of enzymatic reactions in the body, particularly in the production of energy from carbohydrates and fats. Biotin is also required in the manufacture of fats and in the excretion of protein by-products.

You get biotin in your diet when you eat plant or animal foods that contain protein-bound biotin. Good sources of biotin are liver, brewer's yeast, grapefruit, strawberries, milk, bananas, watermelon and peanuts. Biotin is usually absorbed from the upper part of the small intestine, but small amounts may be absorbed from the lower small intestine since "friendly" bacteria have the ability to make biotin.

Although many believe that biotin deficiency is relatively rare, some patients, such as diabetics, are prone to low biotin levels. Diabetics may have a deficiency of certain enzymes in the body (biotin-dependant enzymes), which may lead to a biotin deficiency and possible problems in the nervous system. A number of drugs deplete biotin levels, such as antibiotics (tetracycline, sulfonamides, trimethoprim, penicillin, macrolides, fluoroquinolones and cephalosporins) and sedative and anti-epileptic drugs (phenytoin, barbiturates, carbamazepine, phenobarbitol and primidone).

Typical signs of biotin deficiency are:

- Progressive hair loss
- Loss of hair color
- Depression
- Scaly, dry skin
- Sores on the nose and in the mouth
- Loss of appetite
- Nausea
- Tingling and numbness in the hands and feet
- Muscle pain
- Heart irregularities

A number of case reports have observed biotin deficiency symptoms that were successfully treated with biotin supplements. One report detailed the case of an 11-year-old boy who recovered from hair loss and red, scaly dry skin as a result of biotin supplementation. Another report detailed the case of a 10-year-old boy with hair loss, dry skin and flaccid muscle tone that was successfully treated with biotin supplementation.

The RDA of biotin is 0.3 mg per day. There are no known toxic effects associated with biotin. Excess amounts are eliminated through the kidney.