

Vitamin H

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Today, vitamins and supplements are a multi-billion dollar industry, but few people have even heard of vitamin H. The 'H' in vitamin H comes from the German words "Haar und Haut" which mean "hair and skin." Long known for its benefits to hair and skin, it is no surprise that it has been referred to as the 'beauty vitamin.' Otherwise known as biotin, vitamin B7 or coenzyme R, vitamin H is a water-soluble B-complex vitamin whose benefits go more than skin deep. Since it is relatively rare to be deficient in this vitamin, scientists discovered the importance of biotin rather by accident.

Experiments on animals which were fed only raw egg whites developed skin rashes and hair loss. Once they added the yolks back to their diet, the symptoms went away. Clearly, something in the raw egg whites was causing the skin to get dry and irritated and the hair to thin and shed. The same held true for people who consumed raw egg whites for a long period of time or were tube-fed through IV injections without biotin supplementation. Researchers found that there is a particular protein in raw egg whites called Avidin, which binds to biotin, making it inaccessible for absorption by the body. Once the egg whites are cooked, the proteins dissolve, or "denature," and this is no longer a problem for biotin processing. So clearly, biotin is necessary for proper functioning of skin and hair. But decades of research on biotin has revealed that it is also vital for the proper functioning of the nervous system and musculature and in maintaining cellular processes like growth, metabolism and energy.

How Does Biotin Work?

Biotin is an important component of the enzymes that break down fats, carbohydrates and other substances, helping to convert fuel into energy. Through these actions, biotin can maintain steady blood sugar levels and support the nervous system. Biotin's effect on fat metabolism may in fact be the key to understanding the skin and hair issues found in biotin deficiency. Since biotin is required for the functioning of enzymes designed to produce fat in the body, a deficiency in biotin will undoubtedly affect fat processing. This may sound like a good thing, but it is quite detrimental when it comes to the delicate balance of fatty acids in cells such as the skin cells that die and are replaced very quickly. Being the largest organ in contact with the environment, the skin also relies on fatty acids to form a protective barrier. For this reason, skin cells appear to be the first to show signs of biotin deficiency, resulting in dry skin and an impaired barrier against the environment.

Symptoms of B7 deficiency:

Red, scaly rash around the nose, mouth and eyes.

Thinning hair, sometimes with shedding and loss of pigment (graying hair).

Possible depression, fatigue, hallucinations.

Tingling sensations in the arms and legs.

Muscle cramps after exercise.

Possible high cholesterol and heart problems.

Cradle cap, a type of seborrheic dermatitis of the scalp, head and eyebrows. In babies, crusty yellowish-whitish patches appear in these areas and may or may not be itchy.

Increased risk for developing other health issues.

Where Can We Find it?

Like all B-vitamins, biotin (B7) is water-soluble and is not stored in fatty tissues. So given its importance in maintaining a healthy body, we must supplement with external sources of biotin. B7 can be made by bacteria, yeasts, molds, algae and some plants. Luckily, we have plenty of intestinal bacteria in our bodies that churn out the necessary levels of this vitamin. Some studies show that as many as 50 percent of pregnant women may be

deficient in biotin, so supplementation during pregnancy and breast-feeding can prove beneficial for mother and baby. Long-term use of antibiotics or an imbalance in intestinal problems may destroy these beneficial bacteria, and we must look to food sources for B7. Dietary sources for biotin are diverse and plentiful, found in peanuts, liver, egg yolks, bananas, mushrooms, cauliflower, watermelon, legumes and most of all Swiss chard. Brewer's yeast is another rich source of biotin. It is good news for those who enjoy a cold beer or Vegemite on toast (for our Australian neighbors). Since it is easily available in common food sources, there is no recommended dietary allowance (RDA) established for biotin in the U.S., and biotin deficiency tends to be mild and unusual. However, processed foods may destroy biotin and other nutrients, so unless you eat a variety of whole foods, you may not be fully receiving biotin's health benefits. Pregnant women may need a bit more, but if you are considering taking biotin supplementation, talk to a physician before making any dietary changes. Vitamin H, biotin, B7 – whatever you call it – is in fact a necessary component of maintaining a functioning body. So eat your whole fruits and vegetables to benefit from this vitamin you probably did not know you need!

Dietary Sources for Vitamin H (Biotin)		
Peanuts	Watermelon	Organ meats
Egg yolks	Brewer's yeast	Bananas
Mushrooms	Whole grain cereals	Cauliflower
Soy	Dairy products	Swiss chard

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