

## In the News...

For those with early hair loss, there may be some good news. Researchers from the University of Washington School of Medicine studied 2,000 men between the ages of 40 and 47 and found that those who began balding by age 30 appeared to be at a lower risk of prostate cancer, the BBC reports. The study, which appears in the journal, "Cancer Epidemiology," linked higher testosterone levels in the men who went bald to lower rates of prostate tumors. Specifically, men who developed receding hairlines or bald spots on the top of their heads had a 29 percent to 45 percent reduction in the risk of prostate cancer. For more information, [check out the article at BBC news](#).

## For Your Information...

Last month, the focus of the educational article was on vitamins necessary for hair growth. This month's column will focus on minerals and other things necessary for successful hair growth. As mentioned before, hair is one of the most metabolically active parts of the body. Maintaining all of the building blocks for healthy hair is necessary to ensure healthy hair. Vitamins and minerals must be considered as an integral part of any hair loss treatment plan.

### Fats

A balance must be obtained with fat intake. While much attention is paid in Western culture to a decrease in fat intake, there are some fats which are good and essential to normal body activity. Fatty acids, such as omega-3 and omega-6 oil, can only be obtained through sources outside of the body and must be consumed for normal body function. The most common natural sources of these 'essential fatty acids' are fish (salmon, sardines, tuna), plant (flaxseed, soybeans, pumpkin seeds), and walnut oils. It is well documented that essential fatty acid deficiency and generalized malnutrition can cause hair dryness, dandruff, change of hair color, and scalp redness. These effects are usually seen after 2-4 months of inadequate fatty acid intake. The condition resolves when adequate essential fatty acids are consumed.

A balance must be struck though as there is suggestion that excess saturated animal fat intake may cause hair loss. This suggestion comes from the observation that male hair loss in the Japanese population has increased since World War II as has the level of saturated animal fat intake. Though a direct correlation has not been established, the observation is interesting and provides further fuel to the controversy over diet and hair loss.

### Minerals

Minerals are inorganic compounds which are necessary in maintaining health. Iodine, selenium, zinc, copper, and iron are important for maintaining hair health as well.

### Zinc

Zinc is a mineral found in fortified cereals, red meats, and certain seafood. It is essential for cell replication both in the [hair follicle](#) and throughout the body. It also helps to stabilize cell membranes and act as an antioxidant. Intake should be 11 mg/d in adult males, 8 mg/d in adult females, 11 mg/d in pregnant adult females, and 12 mg/d in lactating adult females. A British laboratory study in 1988 showed that at least in the lab, a combination of zinc, [vitamin B6](#), and azelaic acid inhibited 5-alpha reductase by 90% in human skin. Unfortunately, further human studies have not been undertaken.

### Iodine

Iodine is essential to thyroid function. As mentioned, thyroid dysfunction can manifest as hair abnormalities. Iodine can be found in seafood, some processed foods, and iodized salt. Suggested intake for adult males is 150 µg/d, 150 µg/d for adult females, 220 µg/d for pregnant adult females, and 290 µg/d for lactating adult females.

### Selenium

Selenium is necessary for proper iodine useage and proper thyroid function. Selenium deficiency has been shown to result in cancer, heart disease, and poor hair growth. Selenium can be found in organ meats, seafood, and plants grown in soil rich in selenium. Recommended daily intake is 55 µg/d for adult males, 55 µg/d for adult females, 60 µg/d for pregnant adult females, and 70 µg/d for lactating adult females.

### Copper

Copper is found in organ meats, seafood, nuts, seeds, wheat bran cereals, whole grain products, and cocoa products. It is required for several enzymes to function properly. Deficiency results in anemia, diarrhea, general weakness, and baldness. Excess intake is also detrimental and can lead to liver damage. Recommended daily intake is 900 µg/d for adult men, 900 µg/d for adult women, 1000 µg/d for pregnant adult females, and 1300 µg/d for lactating adult females.

### Calcium

A part of the body's calcium stores acts on the cell membranes of hair to stimulate hair growth. Recommended intake is 1,000 mg/d for men age 19-50 and 1,200 mg/d for men over 50, 1,000 mg/d for women 19-50 and 1,200 mg/d for women over 50, 1,000 for pregnant adult females, and 1,000 mg/d for lactating adult females. Sources of calcium include milk,

cheese, yogurt, corn tortillas, calcium-set tofu, Chinese cabbage, kale, and broccoli.

### **Silica**

Silica, or more properly silicon dioxide, is a mineral found in various crystalline forms such as quartz, opal, sand, agate, and certain plant based foods. Though no studies have shown a biological function in humans, it is postulated that silica helps promote scalp circulation because of its high quantities in certain species of horsetail which has been shown to increase scalp circulation. In addition, silica is used in the formation of keratin sulfate which is a component of the hair shaft.

### **Iron**

Iron is an essential component of hemoglobin, the part of the blood which carries oxygen to the body. Iron deficiency results in anemia, brittle hair, and hair loss. Excess iron can also be detrimental leading to heart disease, possibly cancer, increase in free radicals due to hemochromatosis, and destruction of vitamin E. Iron can be found in fruits, vegetables, fortified bread and grain products such as cereal, meat, and poultry. Recommended daily intake of iron is 8mg/d for adult males, 18 mg/d for females age 19-50 and 8mg/d for females 51+, 27 mg/d for adult pregnant females, and 9 mg/d for adult lactating females.

### **Proteins**

Hair loss or negative changes in hair texture are well documented in patients suffering from malnutrition. Fortunately, when proper nutrition is restored, the hair will return to its normal texture and fullness. According to information from the United States Department of Agriculture dietary reference intake tables:

*"Proteins from animal sources, such as meat, poultry, fish, eggs, milk, cheese, and yogurt, provide all nine indispensable amino acids in adequate amounts, and for this reason are considered "complete proteins". Proteins from plants, legumes, grains, nuts, seeds, and vegetables tend to be deficient in one or more of the indispensable amino acids and are called "incomplete proteins". Vegan diets adequate in total protein content can be "complete" by combining sources of incomplete proteins which lack different indispensable amino acids."*

Recommended protein intake for an adult male is 56 g/d, 46 g/d for an adult female, 71 g/d for pregnant adult females, and 71 g/d for lactating adult females.

Proteins are broken down into their constituent amino acids. These are necessary for the body to recreate proteins it needs for proper functioning. Two amino acids are particularly important for hair health because they contain sulfur: methionine and cysteine.

### **Methionine**

Methionine is an essential amino acid, meaning that the body cannot produce it and it must be consumed. To be processed by the body, the l-methionine form should be consumed. Hair requires the sulfur in methionine for healthy connective tissue formation, normal growth, and appearance. The recommended daily intake of methionine and cysteine is 25 mg/g of protein. Patients can suffer from methionine toxicity. In addition, one of the break down products of methionine, homocysteine, can lead to heart disease.

### **Cysteine**

Cysteine can be made by the body and is therefore a non-essential amino acid. Again, the l-cysteine form is the desired form for intake. There is evidence to suggest that sulfur is missing from patient's hair that is being lost. The recommended intake of cysteine and methionine is 25 mg/g protein. Caution should be taken in patients with diabetes as cysteine can block insulin receptors and increase serum sugar concentrations.

## **Consider a Supplement...**



If you are looking for a well rounded supplement for hair health for men, consider Alpha Hair. The product is specially formulated for male pattern baldness and contains 100% or more of the daily dose of 14 vitamins, additional amount of saw palmetto, and other minerals associated with healthy hair. To get your one month supply today, visit <http://www.alphahairsupplements.com>.

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