

# ZINC

Are you having problems with thinning hair or hair loss? If so, it could be because you have too much zinc in your diet.

There have been many studies that show how too much zinc can lead to hair loss and other issues.

Why is this? Even though we need to have a certain amount of zinc in our diets, there are many problems that can arise, including hair loss, if we have too much.

## Zinc

Zinc is a trace element (chemical element low in concentration and required in minute amounts) in the human body yet it is essential for a lot of biochemical processes.

Some of the essential processes dependent on Zinc include cell reproduction, production and maintenance of hormone levels, protein synthesis and absorption of vitamins and other minerals.

When the body level of zinc is not enough to meet the body's metabolic needs, a state of zinc deficiency is diagnosed.

Zinc deficiency or hypozincemia is a nutrient deficiency precipitated by malnutrition or malabsorption of the element. It can also be caused by certain disease states such as renal disease, chronic liver disease, diarrhea, sickle cell anemia, diabetes, cancer and even after having surgery to treat obesity.



It is important to note that deficiencies of Vitamin A and D are prominent causes of zinc deficiency.

One chief sign of zinc deficiency is hair loss. Other signs and symptoms include diarrhea, skin lesions, psoriasis and muscle wasting. It is also implicated in the development of acne.

If allowed to persist and without treatment, zinc deficiency could lead to anorexia and other appetite disorders, weight loss, baldness, impairment of motor skills and cognitive functions in children, pneumonia, dysmenorrhea, and distressed gestation in pregnant women.

The group of people most prone to zinc deficiency includes the elderly, anorexics, alcoholics, those on restricted diets and those with diseases such as Crohn's and

celiac which causes general malabsorption.

## Zinc for Hair Loss

There are many reasons why we need to zinc in our bodies. These reasons include:

- Building healthy cells
- Regulating hormones
- Aiding in the absorption of other nutrients

Of course, too much of a good thing is not always good either, and this holds true with zinc.

It is a common fear that too much zinc in the body can raise levels of DHT ( Dihydro testosterone). It may seem strange, because even though DHT levels are raised, production is limited. Using zinc as a DHT blocker is not effective.

Zinc helps to keep hormone levels regulated, which is one of the reasons why it is so effective in preventing and treating hair loss.

## The Zinc Balance

Just as zinc deficiency can cause hair loss, so can excess zinc. High levels of zinc in the body not only disrupts the absorption of other essential minerals such as magnesium and iron, it also promotes the production of testosterone.

High testosterone levels coupled with other hormonal imbalances lead to hair thinning and eventually hair loss. On the other hand, iron deficiency is an identified cause of hair loss.

Therefore, just as zinc deficiency causes loss of hair through multiple paths so does excess zinc in the body. In a way, this is good news since it means that zinc is very important to the growth of hair follicles.

High doses of zinc are reported to inhibit both the anagen and catagen stages of hair growth. To achieve the best balance of zinc it is important to

## How Zinc Prevents Hair Loss

To understand how zinc prevents hair loss, it is important to know how zinc deficiency can lead to hair loss.

One theory established that zinc deficiency leads to changes in the protein structure of hair follicles leading to weakening of their structural integrity. This means new hairs will fall off quicker than they should.

Furthermore, there are recorded cases of people whose hair changed back from dull, aging gray to their original colors when placed on diets rich in zinc.

Another study puts the importance of zinc to hair regrowth on the mineral's crucial role in DNA and RNA production. This is a requirement for the efficient division of follicle cells leading to an improved anagen stage of the hair growth cycle.

In addition, the effectiveness of zinc in reversing hair loss due to negative enzymatic reactions has been demonstrated in topical application of the mineral.

# A Fine Line to Walk

It is very important to make sure that you are getting the right amount of zinc, and not to have too much or too little.

There is another theory that having a zinc deficiency can lead to Tumor Necrosis Factor alpha (TNF-a). This is a chemical messenger that causes the immune system to cause damage to healthy tissues in the body. This includes hair, and it can cause hair loss.

Too much zinc can lead to health issues, as well as not enough zinc.

One of these issues is a deficiency in other minerals our bodies need, including copper, magnesium and iron, which can lead to hair loss.

Those who take high doses of zinc supplements can experience a lack of anagen development, which causes hair loss, but at the same time, one form of zinc treatment can actually encourage hair growth.

It really is a fine line to walk.

Not having enough of certain minerals, including copper and other hair loss supplements and vitamins can keep new blood vessels from being created, which in turn can inhibit hair growth and cause damage to the scalp.

Basically, having too little zinc can cause damage, and having too much zinc can also cause damage. The best thing to do is to just make sure that you are getting the recommended daily amount of zinc, which should be adequate.

## Sources of Zinc

There are many ways that you can get enough zinc in your diet without having to rely on supplements, so you can be sure that you are not getting too much or too little of the mineral.

There are all kinds of delicious foods that contain zinc, including:



Red meats

Poultry

Liver

Wheat germ

Pumpkin seeds

Prawns

Egg Yolks

Soy products

These are just a few of the foods that are rich in zinc, as well as many of the other nutrients our bodies need.

Sometimes hair loss is inevitable. However, if it is caused by something in your diet, there are steps you can take. One of these steps is to make sure that you are getting enough zinc in your diet.

Zinc is an essential, trace element

Both zinc deficiency and high levels of the element can lead to hair loss

Zinc is essential for DNA and RNA synthesis, and so to a rapid hair follicle growth

Zinc stabilizes cell membranes and helps remove oxidative radicals to promote the integrity of hair

Although it is easy to get the daily allowance of zinc in the diet, most people do not

Studies have shown that zinc prevents hair loss

## Zinc Supplementation

Zinc supplementation is important because even though dietary sources of zinc are common in most people's diets, only 30% of the zinc present is absorbed.



The recommended daily intake of zinc is 8 – 11 mg but the recommended daily dose of the mineral is 15 mg delivered as a chelate. While the recommended doses are put on the safe side of treatment, some hair loss experts advocate an upper limit of 25 mg.

However, to prevent excessive zinc intake, zinc supplementation should not be taken at this upper limit for longer than 2 – 3 weeks.

Since zinc reduces the amount of copper in the body, the recommendation is to take a little copper supplement alongside.

Also, zinc supplementation is often paired with selenium supplementation because the latter is a known antioxidant which protects pathways known to promote hair growth.

On the other hand, zinc reduces the absorption of calcium and vice versa. For this reason, Zinc supplements formulated with calcium should be avoided. Similarly, zinc should not be taken with foods such as milk or cheese with high calcium content.

It should not be taken alongside fibrous food too since dietary fiber binds minerals and prevent their absorption. Lean meat, on the other hand, as well as shellfish, fish and eggs improve the absorption of zinc.

Zinc supplements come in many forms: as sulfate, acetate, gluconate, aspartate, arginate, citrate, picolinate and monomethionine (ZMA ; also containing magnesium aspartate and vitamin B6 to promote absorption and address any attendant magnesium and iron deficiencies).

The amino acid chelates of zinc provide the best absorption of its supplements.

Please consult your doctor before starting on zinc supplements as the mineral can affect the absorption and bioavailability of some antibiotics and blood pressure medications.