

Telogen effluvium

Typically, about 10% of the hairs on the scalp are in the telogen or *resting phase* of the hair growth cycle at any one time. Telogen effluvium occurs when the number of hairs in the *resting phase* reach an abnormally high level (approximately 30%). Telogen effluvium, recognized by a diffuse thinning of hair all over the scalp, may result from physical or psychological stress such as a high fever, physical or emotional trauma, a difficult childbirth, anorexia nervosa or extended crash dieting. Generally, the abnormal hair loss ceases as the stress disappears.

Anagen effluvium

Anagen effluvium occurs when hair in the anagen or *growth phase* of the hair cycle falls out. Drugs used for the treatment of cancer can be the cause. Patients undergoing chemotherapy sometimes lose as much as 90% of their hair. When the chemotherapy ends, hair usually grows back to its before-treatment state.

Proper treatment of hair loss requires the right diagnosis. If you are bothered by hair loss, consult your physician.



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HAIR LOSS



What is hair and how does it grow?

To better understand hair loss of the scalp, it helps to know a little about hair itself: what it is and how it grows. Hair grows all over the body, with the exception of the soles of the feet and the palms of the hands. However, it is the loss of hair on the scalp that has always been a cause for concern among both men and women. Hair loss is common, affecting the majority of men and a significant amount of women at some point in their life. Identifying the proper cause of excessive hair loss will help determine the most adequate treatment.

Hair is mostly composed of protein (97%) and water. Hair growth takes place within the hair follicle located under the scalp. A hair shaft, the visible part of the hair, emerges from the hair follicle.

The hair growth cycle

The growth of hair on the scalp follows a repeating, three-phase cycle. The *growing phase* of hair lasts the longest, anywhere from two to five years. The longer it lasts, the longer the hair. At any one time, about 87% of the hairs on your scalp are in this phase. The second phase is a short *transition period* lasting around two weeks when the root shortens and shrinks. Only around 1% of hair follicles are in this stage at any one time. The *resting phase* ends hair growth. It lasts about three months and involves about 12% of hair.

On average, hair grows about 0.35 millimeters a day. Since hairs on the scalp are at different stages of the growth cycle at any one time, it is normal to lose hair every day. In fact, we typically shed about 100 hairs a day as the cycle takes its course. With age, the rate of new hair growth gradually slows down, resulting in thinner hair.

But how can we explain the thinning hair of many young people? Excessive hair loss may be caused by a number of different things. A physician can best diagnose the cause of hair loss and help determine the most adequate treatment. In 95% of cases, hair loss is due to a disorder called androgenetic alopecia. Other hair disorders can also cause excessive hair loss and will be reviewed briefly.

Hair disorders

Androgenetic alopecia

Androgenetic alopecia is the most common cause of hair loss and affects both women and men. In women, androgenetic alopecia leads to the progressive loss of hair, eventually resulting in thinner hair on the front, the crown and the sides of the head. True bald spots are rare. With men, the pattern is different – thinning usually happens at the crown and/or front of the head and often progresses to baldness with only a “U” shaped rim of hair around the head.

Androgenetic alopecia in men is better known as Male Pattern Hair Loss (MPHL). Susceptibility to MPHL is inherited from the combined gene pool of both the mother and the father. Research shows that a male hormone, dihydrotestosterone (DHT), plays a vital role in hair loss in men. Men susceptible to MPHL have hair follicles at the top and front of their heads as well as their temples that are particularly sensitive to DHT — a derivative of testosterone. DHT shortens the hair growth cycle causing hair follicles to miniaturize and eventually leading to hair loss. Men with MPHL have elevated levels of DHT in these areas of scalp that are thinning.

Although men are more prone to hair loss, it is not uncommon for women to lose their hair. In both cases, susceptibility to hair loss is genetic. Women are most likely to experience hair loss during periods of hormonal change: (1) puberty, (2) menopause, (3) following a pregnancy, (4) following termination of birth control pills.

As we have seen, hair loss is linked to the presence of DHT (a male sex hormone) that acts on sensitive hair follicles of the scalp. In women, the level of estrogens (female sex hormones) plays an important role in counteracting the effects of hair loss attributed to DHT. As women who are genetically prone to hair loss approach menopause and their level of estrogens decreases, their resistance to hair loss also diminishes.

Alopecia areata, totalis, universalis

Alopecia areata, also known as patchy baldness, is an imbalance of the immune system towards hairs and may affect 1.7% of the population. It is characterized by the appearance of one or more bald spots anywhere on the scalp or other parts of the body and may affect men and women equally. This condition can affect children or adults. The cause of this disease is unknown and in most cases, hair will regrow on its own. Alopecia totalis is the total loss of hair on the head. Alopecia universalis is the loss of all body hair, including the eyelashes and eyebrows. This condition is rare. Alopecia universalis can continue for months or years and then clear up spontaneously. There is no known cause or cure.