

Facts About Hair, Hair Loss and Hair Loss Treatments

Facts About Hair

As far as we know, the most important function of scalp hair today is its role in social relationships. Well-groomed hair is an asset in our personal lives, in our jobs, and in helping us feel good about ourselves. Less important today is the role of hair in protecting the scalp against physical injury, heat loss in winter and damage from solar radiation in summer—we have headgear for this kind of protection.

Of the approximately five million hair follicles on the human body, 100,000 to 150,000 are on the scalp when the scalp is unaffected by hair loss. The number of scalp hair follicles is linked to hair color: the greatest number of scalp hair follicles is found in blonds, fewer in brunettes, and the least number in people with red hair.

The Hair Growth Cycle

The normal growth rate of scalp hair is one-fourth to one-half inch per month. Hair growth has a cyclic pattern that can be affected by a number of genetic, disease, medication or other factors to cause hair loss.

Hair is formed in the hair follicle and grows out of the follicle in a continuous cyclic pattern of growth and rest. There are three phases in the hair growth cycle:

0. Anagen—growth phase, 2 to 8 years;
0. Catagen—degeneration phase, 2 to 4 weeks; and,
0. Telogen—resting phase, 2 to 4 months.

During anagen the follicle actively grows hair.

During catagen the follicle is almost entirely degraded.

During telogen the follicle rests prior to re-initiation of an anagen phase and the growth of a new hair shaft.

As the new hair shaft emerges it pushes out the prior “dead” hair shaft, and the old hair is shed. About 50 to 100 telogen hairs are normally shed every day; these are the hairs we find in our comb, brush and shower drain. About 10 percent of scalp hair follicles are normally in telogen phase at any given time if the scalp is healthy and not affected by any condition that causes hair loss.

Hormones: Key Factors in Hair Growth and in Male and Female Pattern Hair Loss

The hormones called androgens are important control factors in hair growth and in inherited male and female patterns of hair loss. The androgen hormone testosterone and its metabolite dihydrotestosterone (DHT) are the key control factors:

- 1. Testosterone is a key control factor in the growth of beard, underarm and pubic hair.
- 1. Scalp hair growth is not under androgen control, but scalp hair loss is associated with presence of DHT in male and female pattern hair loss. DHT plus the presence and activity of hair loss gene(s) are the key factors underlying male and female pattern hair loss.

Genes: The Other Key Factor in Male and Female Pattern Hair Loss

Male and female pattern hair loss is called androgenetic alopecia (AGA) because both androgens (andro) and genes (genetic) are involved. Alopecia is a medical term for hair loss.

Androgenetic alopecia (AGA) “runs in families”. It is an inherited condition

associated with a gene (or genes). Both the testosterone metabolite DHT and the gene for hair loss must be present for AGA to occur. The gene for hair loss makes scalp hair follicles extraordinarily sensitive to DHT, and this sensitivity eventually causes hair follicles to (1) stop producing hair, or (2) produce only miniaturized “peach fuzz” hair. The amount of DHT does not need to be greater than normal for AGA to occur; it is the presence of the gene for AGA that causes DHT to halt growth in hair follicles.

Patterns of inheritance of the hair-loss gene can be unpredictable for the average person. Having a father or uncle with AGA makes it probable—but not certain—that AGA will occur in a son or daughter. Physician hair restoration specialists are familiar with the genetics of AGA and can usually counsel a patient regarding the onset and progression of male or female pattern hair loss.