

Various Phases of Hair Growth Cycle

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DESCRIPTION

Anagen, the growing phase, catagen is the involuting or regressing phase, and telogen, the resting or quiescent phase make up the cycles of phases that make up the growth of hair. There are numerous morphologically and histologically distinct sub-phases within each phase. There is a stage of follicular morphogenesis before cycling begins. A hair may grow from a single follicle and depart during the exogen phase of the hair cycle, which is separate from anagen and telogen. Normally, 10% to 14% of hair follicles are in telogen, 10% to 90% of them are in the anagen phase, and 1% to 2% is in catagen. Varied bodily components have different cycle lengths. Because the cycle for eyebrows is finished in around 4 months compared to 3-4 years for the scalp, eyebrow hair has a considerably shorter length restriction than hair on the head. A chemical signal like epidermal growth factor regulates growth cycles. The differentiation and cycling of hair follicles are significantly regulated by *DLX3*.

Anagen phase

The active growth phase of hair follicles known as anagen occurs when the hair root divides quickly, lengthening the hair shaft. About 1 centimetre of hair grows during this phase every 28 days. The root sheath, which resembles a clear gel coating the first few millimetres of the hair from its base, is frequently still connected to hairs plucked out during this phase. Non-healthcare professionals may mistake this for the follicle, the root, or the sebaceous gland. The length of time that scalp hair spends in this

active phase of growth is genetically set to be 2-7 years. The follicle enters the catagen phase at the end of the anagen phase as a result of an unknown signal.

Catagen phase

At the conclusion of the anagen phase, there is a brief transitional stage called catagen. It denotes the conclusion of a hair's active growth cycle. The hair is in this phase for two to three weeks while it changes into club hair. When the component of the hair follicle in contact with the bottom portion of the hair attaches to the hair shaft during the catagen phase, a club hair is created. The bottom tip of the hair is held in place by a keratin bulb as a new hair begins to develop below it. The keratin bulb, which is visible as a little white ball on the end of the hair, will be connected to any hair plucked out during this period. The blood supply and the cells that form new hair are cut off from the hair during this procedure. The hair follicle reaches the telogen phase when a club hair has fully developed, which takes around two weeks.

Telogen phase

The three-month-long telogen phase is the hair follicle's resting stage. As much as 70% of hair may prematurely enter the telogen phase and start to fall out when the body is under intense stress, resulting in a significant loss of hair. The name of this condition is telogen effluvium. The club hair, which is a fully keratinized, dead hair, is the result of a hair follicle in the telogen stage. On a typical scalp, 50-100 club hairs fall off every day.

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