

## The Hair Growth Cycle and Telogen Effluvium and Psychological Impact

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### DESCRIPTION

Telogen Effluvium (TE) is a common, non-scarring alopecia characterized by diffuse hair shedding, usually triggered by a significant physical or emotional stressor. It is one of the most frequent causes of diffuse hair loss, affecting individuals of all ages and genders. Understanding the mechanisms, causes, clinical features, diagnosis, and treatment options for telogen effluvium is important for effective management and alleviation of patient concerns.

### Hair growth cycle

To comprehend telogen effluvium, it is essential to understand the hair growth cycle, which comprises three main phases:

**Anagen (Growth phase):** Lasts 2-7 years, during which hair actively grows.

**Catagen (Transitional phase):** Lasts 2-3 weeks, marking the end of active growth as the hair follicle shrinks.

**Telogen (Resting phase):** Lasts approximately 3 months, after which the hair is shed, and a new anagen phase begins.

In a healthy scalp, approximately 85%-90% of hairs are in the anagen phase, 1%-2% in the catagen phase, and 10%-15% in the telogen phase. Telogen effluvium occurs when a disruption in this cycle causes an increased number of hairs to enter the telogen phase prematurely.

### Pathophysiology

Telogen effluvium results from an alteration in the hair growth cycle, leading to a higher proportion of hairs entering the telogen phase simultaneously. This can occur due to various triggers, including physiological stress, hormonal changes, nutritional deficiencies, and certain medications. The precise mechanisms remain incompletely understood, but it is believed that these triggers cause an interruption in the normal hair growth cycle, inducing a sudden shift of numerous hairs into the telogen phase. After a latency period of approximately 2-3 months, these hairs are shed simultaneously, leading to noticeable hair thinning.

### Clinical features

Telogen effluvium presents with diffuse hair thinning and increased hair shedding, noticeable on the scalp, but not limited to it. Patients typically report finding more hair than usual on their pillow, in the shower, or on their hairbrush. The scalp may appear less dense, but there is no complete baldness, and the hair loss is usually non-patchy.

In acute TE, the hair shedding is abrupt, while in chronic TE, the shedding is more gradual and persistent. Despite the noticeable hair loss, the hair follicles remain intact, which differentiates TE from scarring alopecias.

### Diagnosis

Diagnosing telogen effluvium involves a thorough patient history, physical examination, and, in some cases, additional tests to rule out other causes of hair loss.

**Patient history:** A detailed history is essential to identify potential triggers, including recent illnesses, surgeries, major life events, dietary changes, and medication use.

**Physical examination:** Examination of the scalp and hair can reveal diffuse thinning without significant inflammation or scaling. The "hair pull test," where gentle pulling of hair reveals a higher than normal number of telogen hairs, can be indicative of TE.

**Laboratory tests:** Blood tests to check for nutritional deficiencies, thyroid function, and other relevant systemic conditions may be warranted.

**Scalp biopsy:** In uncertain cases, a scalp biopsy may be performed to distinguish TE from other hair loss disorders. The biopsy typically shows a higher proportion of telogen hairs without significant inflammatory infiltrates.

### Psychological impact

Hair loss can have a profound psychological impact, leading to anxiety, depression, and reduced self-esteem. Providing psychological support and counseling is an important aspect of managing patients with TE, helping them cope with the visible changes and reassuring them about the transient nature of the condition.

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