CONDITION

Female pattern baldness

Female pattern baldness is gradual, patterned thinning of scalp hair caused by shrinking hair follicles.

WHAT IT IS
Gradual, patterned thinning of scalp hair in women

BODY SYSTEM
Skin and hair

MAIN SYMPTOMS
Widening part, crown thinning, finer hairs, increased shedding

WHAT CAUSES IT
Inherited follicle sensitivity with hormonal and age-related influences

HOW IT IS DIAGNOSED
Hair history, scalp examination, and dermoscopy

MAIN TREATMENT
Topical minoxidil and selected hair-loss treatments

CAN IT BE CURED?
No - treatment manages ongoing follicle shrinkage

IS IT AN EMERGENCY?
No - sudden or inflamed hair loss needs prompt assessment

LONG-TERM OUTLOOK
Usually gradual progression, often slowed with ongoing treatment

Overview

Female pattern baldness is a common type of long-term hair thinning in women. Its medical name is female pattern hair loss or androgenetic alopecia.

Hair usually becomes thinner over the top and crown of the scalp. The centre part may widen, and the scalp may become easier to see under bright light. The front hairline often remains in place, although the temples may thin. Complete baldness is unusual.

The condition develops when affected hair follicles gradually shrink. They produce shorter, finer hairs and spend less time actively growing hair.

Female pattern baldness does not damage physical health, but it can affect confidence, relationships, and emotional wellbeing. Assessment can also distinguish it from hair loss that

needs different treatment.

Symptoms

Changes usually develop slowly and may be difficult to notice at first.

Typical features include:

The scalp usually looks normal. Female pattern baldness does not normally cause scaling, sores, marked redness, scarring, or sharply defined bald patches.

Some people also develop temporary excessive shedding, called telogen effluvium. This can follow illness, surgery, childbirth, major weight loss, severe stress, or a nutritional problem.

Hair loss that is sudden, patchy, painful, or associated with an inflamed scalp is less typical and should be assessed.

- A centre part that becomes wider
- Reduced hair density over the crown and top of the scalp
- Finer, shorter hairs in areas that previously had thicker growth
- More visible scalp, especially under strong light or when hair is wet
- Increased shedding in some people

Causes and risk factors

Female pattern baldness is linked to genes, ageing, and how scalp follicles respond to hormones called androgens. Women naturally produce androgens, including testosterone.

The condition does not necessarily mean androgen levels are high. Blood tests are normal in many people, but their follicles may be more sensitive to hormonal signals.

Family history increases the likelihood of developing the condition. The tendency can come from either side of the family, and relatives may have different degrees of thinning.

Female pattern hair loss can begin after puberty but often becomes more noticeable after menopause. Hormonal changes may reveal an existing inherited tendency.

Hair thinning with irregular periods, increased facial or body hair, severe acne, or fertility problems can suggest excess androgen activity or polycystic ovary syndrome. These features may lead to further testing.

Tight hairstyles, hair dye, heat styling, and chemical treatments do not cause inherited follicle

shrinkage. However, repeated pulling or breakage can add to visible hair loss.

Diagnosis

There is no single blood test that confirms female pattern baldness. Diagnosis is usually based on the pattern and timing of hair loss, medical history, and a scalp examination.

A clinician may ask about sudden shedding, family history, illness, pregnancy, menopause, weight changes, medicines, diet, menstrual periods, and hair-care practices.

The scalp may be examined with a dermoscope, a handheld magnifying device that shows hair thickness and follicle openings. A mixture of thick and very fine hairs supports the diagnosis.

A gentle hair-pull test may check for active shedding. Photographs or part-width measurements can provide a baseline for comparison.

Blood tests may be used when iron deficiency, thyroid problems, nutritional issues, or excess androgen activity are suspected. A scalp biopsy is occasionally needed if the pattern is unclear or scarring hair loss is suspected.

Treatment and management

Treatment aims to slow thinning, support thicker growth from active follicles, and improve appearance. It cannot create new follicles, and benefits usually require continued treatment.

Topical minoxidil is the main established treatment. Applied to the scalp, it can help follicles remain in their growth phase longer. Results are usually assessed after several months.

Extra shedding can occur soon after starting minoxidil as hairs enter a new growth cycle. Possible unwanted effects include scalp irritation and facial hair if the product repeatedly runs onto nearby skin.

Benefits generally fade after minoxidil is stopped. It is not normally used during pregnancy or while trying to become pregnant. Use during breastfeeding should be discussed with a healthcare professional.

A dermatologist may consider other medicines if topical treatment is unsuitable or ineffective. Options include low-dose oral minoxidil or medicines that reduce androgen effects, such as spironolactone. These uses may be off-label.

Oral treatments can affect blood pressure, fluid balance, pregnancy, or other aspects of health. Some require monitoring and reliable pregnancy prevention. They should only be used after an individual medical assessment.

Other approaches include:

Supplements do not treat inherited follicle shrinkage unless there is a genuine deficiency. Excess iron can be harmful, while high-dose biotin can interfere with blood tests, including thyroid and heart tests.

Gentle hair care can reduce breakage. Avoiding very tight styles and repeated heat or chemical damage may help the remaining hair look fuller.

- Hair fibres, scalp powders, wigs, hairpieces, or different hairstyles
- Low-level laser or light devices, which may help some people
- Platelet-rich plasma injections, although evidence and methods remain inconsistent
- Hair transplantation for selected people with suitable donor hair

Complications

Female pattern baldness does not usually cause physical complications. Its main effects are cosmetic and emotional.

Hair thinning can contribute to anxiety, low mood, reduced self-esteem, or social avoidance. Support from a counsellor, psychologist, hair-loss organisation, or trusted community may help.

An exposed scalp can burn in strong sunlight. Use a hat or sunscreen suitable for the scalp.

Treatments may also cause unwanted effects. Topical products can irritate the scalp, while oral medicines require appropriate medical supervision.

Prevention

Inherited female pattern baldness cannot currently be prevented. No proven diet, shampoo, vitamin, or styling method can stop genetically sensitive follicles from shrinking.

Early treatment may slow progression for some people, but this is management rather than prevention.

Limiting tight hairstyles, harsh chemical processing, and excessive heat can reduce additional damage. A balanced diet supports normal hair growth, but supplements are unlikely to reverse patterned thinning without a diagnosed deficiency.

Living with it and what to expect

Female pattern baldness usually changes over years rather than days. Hair density may slowly decrease, remain stable for a time, and become more noticeable with ageing or hormonal change. Progression cannot be predicted precisely.

Most women keep their frontal hairline and do not lose all scalp hair, although crown thinning may become more visible as hairs grow finer.

Treatment can slow hair loss and improve density for some people but may not restore previous fullness. It often takes several months to judge the response. Standardised photographs taken in similar lighting are more reliable than daily mirror checks.

Treatment usually needs to continue to maintain its effect. If it is stopped, hair commonly returns toward the course it would otherwise have followed.

Medical treatment can be combined with hairstyles, hair fibres, wigs, or hairpieces. Routine follow-up may review photographs, side effects, blood pressure or blood tests when relevant, and whether treatment remains worthwhile.

When to get medical help

Arrange a routine appointment if gradual hair thinning concerns you or you want to discuss its cause or treatment. Assessment is also helpful before spending money on supplements or commercial procedures.

Seek prompt medical assessment if hair loss is:

Female pattern baldness itself is not an emergency. Seek emergency care for chest pain, fainting, severe breathing difficulty, or swelling of the face or throat after using a treatment. These symptoms may indicate a serious medicine reaction or another urgent condition.

- Sudden or rapidly worsening
- In smooth, clearly defined patches
- Accompanied by scalp pain, burning, pus, heavy scaling, or marked redness
- Associated with shiny, scar-like skin or loss of follicle openings
- Accompanied by unexplained fatigue, weight change, menstrual changes, facial hair growth, or severe acne

Common questions

Can female pattern baldness grow back?

Follicles that remain active may produce thicker or longer hairs with treatment. Follicles that have become very small over many years may respond less well. Treatment usually improves density rather than restoring previous fullness.

Will I go completely bald?

Complete scalp baldness is unusual. Thinning may progress over the crown and top of the scalp, but the frontal hairline is often preserved.

Is female pattern baldness caused by high testosterone?

Not always. Many women have normal androgen levels but follicles that are sensitive to those hormones. Testing may be appropriate if there are other signs of excess androgen activity.

Does minoxidil make hair loss worse?

Temporary increased shedding can occur after starting it as follicles change growth cycles. Persistent worsening, troublesome irritation, or other side effects should be reviewed.

Can vitamins stop female pattern baldness?

Vitamins do not stop inherited follicle shrinkage. Replacing a nutrient may help when a deficiency is present, but extra supplements are unlikely to improve patterned hair loss.

Can stress cause this type of hair loss?

Stress does not directly cause the inherited pattern, but physical or emotional stress can trigger temporary shedding. Both conditions can occur together.

Sources

- American Academy of Dermatology Association. "Female pattern hair loss: Diagnosis and treatment." Patient guidance on assessment and management
- British Association of Dermatologists. "Female pattern hair loss." Patient information leaflet
- Ramos PM, Miot HA. "Female Pattern Hair Loss: a clinical and pathophysiological review." Anais Brasileiros de Dermatologia . 2015;90(4):529-543
- Fabbrocini G, Cantelli M, Masarà A, Annunziata MC, Marasca C, Cacciapuoti S. "Female pattern hair loss: A clinical, pathophysiologic, and therapeutic review." International Journal of Women's Dermatology . 2018;4(4):203-211
- van Zuuren EJ, Fedorowicz Z, Carter B, Andriolo RB, Schoones J. "Interventions for female pattern hair loss." Cochrane Database of Systematic Reviews . 2016;5:CD007628



- U.S. Food and Drug Administration. Minoxidil topical product labelling and consumer information for female pattern hair loss