Patient education: Hair loss in men and women (androgenetic alopecia) (Beyond the Basics) - UpToDate

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HAIR LOSS OVERVIEW — The most common type of hair loss is a condition called androgenetic alopecia. This type of hair loss can affect both men and women. Other terms for androgenetic alopecia include "male pattern balding" and "female pattern hair loss."

For many people, losing their hair is a frustrating experience. Fortunately, treatments are available that can help to regrow hair or prevent further hair loss.

More detailed information about androgenetic alopecia is available by subscription (see "Androgenetic alopecia in men: Pathogenesis, clinical features, and diagnosis" and "Treatment of androgenetic alopecia in men" and "Female pattern hair loss (androgenetic alopecia in women): Pathogenesis, clinical features, and diagnosis" and "Female pattern hair loss (androgenetic alopecia in women): Treatment and prognosis"). Another type of hair loss, known as alopecia areata, is also discussed separately. (See "Patient education: Alopecia areata (Beyond the Basics)".)

HAIR LOSS CAUSES — The hair follicle is a structure that encases the lower part of the hair shaft. Each follicle contains blood vessels that nurture new hair growth. All hair follicles are present at birth; throughout the lifetime, each follicle grows and sheds single hairs in a repetitive cycle.

- The growth phase for a single new hair lasts two to three years.

- At the end of this time, growth ceases and the follicle enters a resting phase.

- After three to four months in the resting phase, the hair is shed and the next growth cycle begins.

On a normal scalp, approximately 80 to 90 percent of follicles are growing at any time. Each day, about 75 follicles shed their hair while the same number enter a new growth phase.

In men with androgenetic alopecia, hormones related to testosterone (also

called androgens) cause hair follicles to have a shorter-than-normal growth phase, resulting in hair shafts that are abnormally short and thin. These follicles are said to be "miniaturized." The reasons why some men develop androgenetic alopecia and others do not are not fully understood. It is generally accepted that genetic background strongly influences the development of androgenetic alopecia in men, but the exact way in which family history affects a man's chance of developing hair loss has not been determined.

Genetics also appears to play a role in the risk for androgenetic alopecia in women, although other factors (some of which remain unknown) may also be important. As an example, abnormal levels of androgens in the blood are the cause of androgenetic alopecia in a minority of women. Additional research is necessary to provide a better understanding of the role of genetics and other factors in androgenetic alopecia.

HAIR LOSS SYMPTOMS — Men and women experience androgenetic alopecia with equal frequency, although it may be camouflaged better in women. In men, androgenetic alopecia is characterized by gradual hair thinning that most often affects the crown and frontal areas of the scalp (figure 1). In many men, the hairline around the temples regresses. As it moves back to the midscalp, an M-shaped hair pattern develops. The hair in areas affected by hair loss may be of various lengths and thickness, and the presence of uneven lengths and texture is a classic sign of male pattern balding.

Women may have similar patterns of hair loss, although typically the hair loss is a little more diffuse than in men; women rarely experience loss of all their hair (figure 1).

HAIR LOSS DIAGNOSIS — Androgenetic alopecia can usually be diagnosed by examining the scalp. In some cases, you will need blood tests to look for other causes of hair loss, like changes in hormone levels, low iron levels (anemia), or thyroid problems.

PSYCHOSOCIAL IMPACT OF HAIR LOSS — The psychosocial impact of hair loss can be severe for some people, especially women, since there is little understanding or acceptance of the condition. Both women and men may have difficulty with issues of low self-esteem, feeling unattractive, and declines in quality of life.

If you are having difficulty with the psychosocial impact of losing your hair, speak to a health care provider knowledgeable about the diagnosis and treatment of hair loss about your feelings. Experienced providers can offer support and may recommend that a patient work with a therapist, clinical psychologist, or support group; individual and group therapy can help patients adjust and cope with hair loss, and may also provide tips on cosmetic coverings.

HAIR LOSS TREATMENT — Two medications, minoxidil and finasteride, are available to treat male pattern balding in men. Women can be treated with minoxidil or a medication called spironolactone. Occasionally, finasteride is used in women who do not respond to other therapies, but it is not clear whether it is effective. Surgical options may also be considered in some cases.

Minoxidil (Rogaine) — Minoxidil promotes hair growth by lengthening the growth phase of hair follicles and causing more follicles to produce hair. The hairs that are produced tend to be larger and thicker. Minoxidil is available in a 2 and 5 percent liquid or 5 percent foam. The 5 percent solution is more effective in men and is probably more effective in women. It can be purchased without a prescription.

How to apply — Minoxidil is a scalp treatment, not a hair treatment. One milliliter of the liquid or foam should be applied to the affected areas of the scalp using a dropper or pump spray device. The solution should be lightly spread over the affected area with a finger. People using minoxidil must have a normal, healthy scalp since cuts or openings can allow the solution to be absorbed into the bloodstream.

Results — Minoxidil must be used for at least six months to determine if it is effective. When it is effective, you usually begin to shed less hair within two months after the start of treatment, and by four to eight months hair begins to grow. The effects of minoxidil usually stabilize after 12 to 18 months of use.

Treatment with minoxidil must be continued indefinitely. If it is discontinued, any hair that has been maintained or regrown as a result of the medication will be lost.

Not all people benefit from minoxidil. The best results are seen when baldness has been present for less than five years, when it affects the crown (top) of the head, and when the area of hair loss is less than 10 centimeters in diameter. Studies have shown that 30 to 40 percent of men and women with crown hair loss experience cosmetically significant results with minoxidil.

Side effects — Minoxidil causes few side effects. Occasionally, the skin on the scalp may become red or irritated, causing itching. Body-wide side effects are possible if minoxidil is absorbed through cracks or cuts in the scalp. People with a history of heart disease, in particular, should watch for systemic side effects, such as an increased heart rate, swelling in the hands or feet, or weight gain.

Finasteride (Propecia) — Finasteride is a pill that decreases the production of one of the hormones associated with androgenetic alopecia, resulting in an increased amount of hair covering more of the scalp.

Men can take finasteride by mouth at a dose of 1 milligram (mg) per day. Side effects may include weakness and dizziness. Higher doses of finasteride (such as those used to treat some prostate conditions) can cause side effects including erectile dysfunction and decreased sex drive. However, such side effects are rarely seen with the 1 mg dose used to treat hair loss.

Finasteride is not safe for use in women who could become pregnant because of concerns regarding the development of abnormal genitalia in the male

fetus; these women should not even touch finasteride pills. Finasteride has not been proven to help regrow hair in most women.

Spironolactone — Spironolactone also decreases the production of hormones that contribute to androgenetic alopecia. Women with androgenetic alopecia who do not respond to minoxidil may benefit from the addition of spironolactone.

Potential side effects include dizziness, sleepiness, breast tenderness, and elevated potassium levels in the blood. Patients should talk with their health care professional about potential side effects prior to taking spironolactone.

Like finasteride, spironolactone should not be taken during pregnancy. Women who are able to get pregnant must use reliable contraception while taking this drug.

Surgery — For some patients, surgical treatment of hair loss may be an option. Surgical options include hair transplantation, in which healthy follicles from other parts of the scalp are transplanted to areas affected by baldness. Scalp reduction is another procedure sometimes performed. In scalp reduction, bald patches of the scalp are removed and the remaining skin is sewn together.

WHERE TO GET MORE INFORMATION — Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for health care professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient education: Hair loss in men and women (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient education: Alopecia areata (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Androgenetic alopecia in men: Pathogenesis, clinical features, and diagnosis
Treatment of androgenetic alopecia in men
Female pattern hair loss (androgenetic alopecia in women): Pathogenesis, clinical features, and diagnosis
Female pattern hair loss (androgenetic alopecia in women): Treatment and prognosis

The following organizations also provide reliable health information.

●National Library of Medicine

(www.nlm.nih.gov/medlineplus/hairdiseasesandhairloss.html, available in Spanish)

●American Hair Loss Council

(www.ahlc.org)

●American Academy of Dermatology

(www.aad.org/dermatology-a-to-z/diseases-and-treatments/e---h/hair-loss)

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