

# Female pattern hair loss



## Information for patients

Dermatology



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## **Why have I been given this leaflet?**

You have been given this leaflet because you have been told that you have female pattern hair loss. This leaflet explains more about female pattern hair loss and answers some of the most frequently asked questions. If after reading it you have any questions or concerns, you should write them down and discuss them at your next appointment.

## **Where will my hospital appointment take place?**

Your appointment will take place in the:

**Dermatology Outpatients Department  
Royal Hallamshire Hospital  
Sheffield**

## **Female pattern hair loss**

Female pattern hair loss is the most common form of hair loss in women. It can start at any age from early teens onward and affects 2-3% of women by the age of 30, increasing to 10% at age 50 and over 30% at age 70. It shows as a widespread reduction in hair density, mainly on the front and top of the scalp, although occasionally the sides and back of the scalp are also involved.

This means that the scalp becomes more visible through the hair and the central parting appears wider. Some women notice an increase in hair shedding which may be present for several months or even a year or two before there is an obvious fall in hair density. The overall volume of the hair also falls so that a ponytail becomes thinner.

## What causes female pattern hair loss?

For many years female pattern hair loss has been thought to be the same condition as male balding and for this reason it is often called **female androgenetic alopecia**. Male balding is caused by the hormone testosterone in men who are genetically prone to develop balding. Testosterone is an androgen hormone, hence the term **male androgenetic alopecia** (as it requires both androgens and genetic factors). Women also have testosterone circulating in the bloodstream but at much lower levels than in men and it has been assumed this is why hair loss is less severe in women.

There is no doubt that hair loss does occur in women who have raised testosterone levels. There is also good evidence that inherited genetic factors predispose to the development of hair loss in women. However, many women with hair loss do not have raised testosterone levels or any other abnormalities of their hormones. The pattern of hair loss in women is also different from that seen commonly in men – it is unusual for women to develop deep recession of the frontal hairline or true balding on the crown.

For these and other reasons doubts have been raised whether female hair loss is truly the same condition as male balding and there may be factors other than testosterone that are involved in causing it. We do not yet know what these are and, until we do, we prefer to use the term **female pattern hair loss** rather than androgenetic alopecia.

## What is happening to the hair?

Hair is made by structures in the skin called hair follicles. Each hair follicle produces a hair at a rate of about 1cm per month and, on the scalp, the growth of an individual hair may continue for several years. Eventually the follicle goes into a resting state and the hair stops growing. This old hair is shed after about three months and a new hair starts to grow in the same follicle. This process is known as the **hair cycle**.

In many mammals hair cycles are co-ordinated across the skin and this results in synchronised shedding or moulting, usually on a seasonal basis. In humans each hair follicle cycles independently of its neighbours so that we shed some hairs every day.

In female pattern hair loss, the length of time that a follicle spends in the growth phase of the hair cycle gradually falls so that the hair does not grow as long. Because follicles pass through the hair cycle more quickly, the number of hairs shed each day may increase. Hair follicles also become smaller – a process known as miniaturisation – and eventually become so small that the hair produced is almost invisible and may not reach the surface of the skin.

## Are there other causes of this type of hair loss?

Some women experience temporary bouts of excessive shedding of hair. This occurs most commonly following childbirth; other causes include various drugs, illnesses associated with a fever and crash dieting. This is known as **telogen effluvium** (telogen is the resting stage of the hair cycle) and it usually settles down after a few months and the hair growth recovers.

There is also a more persistent form of excessive hair shedding which may continue for many years, known as **chronic telogen** effluvium. This sometimes develops into typical female pattern hair loss but in some women the hair density does not change.

The cause of **chronic telogen effluvium** is unknown. Some dermatologists and trichologists believe it can be caused by iron deficiency but this is controversial and has not yet been confirmed. In true telogen effluvium the hair follicles do not miniaturise and the hair density remains the same, even after excessive shedding for many years. However, excessive shedding can be an early indicator of female pattern hair loss.

Thyroid disease, particularly when the thyroid gland is underactive, may cause hair loss in a diffuse (widespread) pattern.

## Do I need any tests?

We usually do a blood test to check your blood count, your thyroid function and your testosterone level. We also measure your serum ferritin, which is an indication of the iron stores in your body. If you decide to try treatment under our supervision we will normally ask you to have a photograph of your scalp.

## **Will I go bald?**

It is very rare for female pattern hair loss to progress to true balding. Occasionally the hair loss may be severe enough for the woman to want to wear a wig but in most women it does not progress beyond looking 'thin'.

## **What treatments are available?**

Female pattern hair loss is a biologically normal process. It is not an illness and does not mean there is anything wrong with you. Consequently, there is no medical reason why it needs to be treated. However, nobody likes losing their hair (this applies to men as well as women) and some women are keen to be treated. If this applies to you it is important that you understand:

- what is available
- what can be achieved by treatment
- what the treatment involves

There are three types of treatment for female pattern hair loss:

- minoxidil lotion
- oral antiandrogens
- hair transplantation

## **Minoxidil**

Minoxidil was developed as a treatment for high blood pressure in the early 1970s. It soon became apparent that people taking minoxidil tablets became hairy – and not just on their scalps! This observation led to the use of homemade lotions containing crushed minoxidil tablets to treat male balding and in 1985 the manufacturer of minoxidil lotion (the Upjohn Company) released a properly formulated lotion containing 2% minoxidil, for the treatment of hair loss in men and women. In the UK this is marketed as Regaine®.

Upjohn later launched a 5% minoxidil lotion for male balding (Regaine Extra Strength®) but this product is not yet licensed for use in women. The manufacturer of Regaine® (now Johnson & Johnson) recommends a dose of 1ml applied to the scalp twice daily. About 60% of women show some improvement in hair growth from using minoxidil lotion and it can increase hair density by 10-15%. It may take 6 months before the improvement becomes noticeable and up to a year to get the best results.

To keep any new hair growth you have to keep using minoxidil lotion. If you stop the treatment any hair you have gained will be lost over about 6 months. However, you will not be worse off than if you had not used minoxidil.

## **Points to remember if you use minoxidil lotion:**

- 2% minoxidil lotion is licensed for treating female pattern hair loss. It is widely available as Regaine® for women.
- The lotion should be applied to the scalp using a syringe or one of the applicators provided. It will not work if sprayed on the hair.
- The scalp should be dry when you apply minoxidil.
- Be prepared to use minoxidil lotion for at least 6 months to test whether it works for you.
- Some women, particularly those in whom the degree of hair loss is mild, are able to reduce the frequency of application after a year of treatment without losing hair. Do this slowly. You could try reducing to alternate day treatment for 3 months and then to twice a week for 3 months. We would not recommend using minoxidil lotion less frequently than once a week.
- Side effects are uncommon. Occasionally minoxidil lotion causes irritation of the scalp. If this is severe you will have to stop using it. Some people notice an increase in hair shedding 2-6 weeks after starting treatment. This is temporary and usually settles within 2-3 weeks. Sometimes minoxidil lotion causes increased hair growth in places where you do not want it. This occurs mainly around the frontal hairline, but occasionally in other more distant sites. It is an uncommon problem but is more likely to occur in women with darker complexions. The increased hair growth goes away if the treatment is stopped. Try to avoid getting minoxidil lotion on your face and wash your hands after using it.
- You should not use minoxidil lotion if you are pregnant or breastfeeding.
- Minoxidil lotion is not available on the NHS and you have to pay for it, even if you are exempt from paying for your prescriptions. You can buy Regaine® 2% in retail pharmacies.

## **Anti-androgens**

Anti-androgens are drugs that block the action of testosterone. They have to be taken by mouth. In our experience anti-androgens only work in women who have raised testosterone levels or show other features of excessive testosterone action, such as increased facial hair growth. They are unlikely to work in women who lack these features. Anti-androgens are not licensed by regulatory authorities for treating female pattern hair loss.

## **Dianette**

Dianette is an oral contraceptive pill that contains an anti-androgen drug called cyproterone acetate. It has been widely used to treat female pattern hair loss, sometimes with the addition of extra cyproterone acetate. Side effects include; headaches, breast tenderness, mood changes and loss of sex drive, although many women take it without any problems. There is also an increased risk of blood clots (thrombosis). This is a rare but potentially serious side effect.

## **Spirolactone**

Spirolactone works in a similar way to cyproterone acetate. There are no proper trials of spironolactone in female pattern hair loss but clinical experience suggests it is modestly effective in some women. The main side effect is to alter the frequency of your periods, but this is not usually a major problem. Occasionally, spironolactone causes breast tenderness. You should avoid becoming pregnant if taking spironolactone.

## **Finasteride**

Finasteride prevents the conversion of testosterone to another androgen hormone dihydrotestosterone. It is licensed for treating male balding, in which it is moderately effective. Finasteride also works quite well in women with raised testosterone levels, but not in those with normal testosterone levels. It appears a safe drug (apart from the problem mentioned below) and rarely causes significant side effects. The main risk is that it will cause genital abnormalities in a male foetus if the mother takes finasteride during pregnancy. Consequently the manufacturer discourages its use in women and we do not use it in women who are capable of pregnancy. Finasteride has not been widely used in women and there is no information available on long-term side effects.

## **Hair transplantation**

Hair transplantation involves moving hair follicles from the back of the scalp to the areas of hair loss. It is best suited to women in whom the hair loss involves only a small area on the scalp and in whom the hair density on the back of the scalp is high. Good results require a skilled and knowledgeable surgeon. Hair transplantation is only available in the private sector and is very expensive (several thousand pounds). We can advise if you are interested in this course of action.

## General measures

- A hairdresser can often help to improve the appearance by good styling
- As mentioned previously, a wig might be helpful if the hair loss is severe but it usually does not reach this stage.
- We are doubtful that iron treatment alone is helpful in female pattern hair loss. However, there is some evidence that the other treatments are more effective if the ferritin level is over 40mcg/l so it may be worth taking iron tablets if your level is below this.

The treatment options in female pattern hair loss are still quite limited and we cannot restore hair growth to the level before you started to lose hair. All the treatments carry problems of one sort or another – inconvenience, side effects, risks or expense – but they can help if you persevere. You should also be aware that there are still many quack remedies on the market and people who are only too happy to take large sums of money from you in return for unproven remedies.

## Where can I find out more about female pattern hair loss?

You can find out more information by visiting the New Zealand Dermatological Society website.

- [www.dermnetnz.org](http://www.dermnetnz.org)



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