

How does hair grow and should it recycle?

A single hair follicle grows its hair strand over a period of four to six years (the anagen phase). It then rests for two to four months (the telogen phase), after which it loses the “old” hair as a new hair shaft grows and pushes out its predecessor. When the new hair grows in, it does so at a rate of approximately half an inch per month. At any time, 10 percent of your hair is in the telogen phase and 90 percent is in the anagen phase.

What causes a change in this hair loss/ hair growth process?

If lots of hair begins to fall out throughout the scalp, it’s obviously due to a change in the normal hair cycle: either a short anagen phase or an increase in the number of follicles that enter the telogen phase. When the majority of hair follicles “go telogen” it’s called telogen effluvium or stress alopecia. A shock to the body’s system, which stresses the hair follicles, is often to blame for this change in cyclical hair events. Two to three months after the stressor hits, up to 70 percent of hairs can enter the telogen phase and commence a massive “fall out”. There are a number of shocks that are known to cause this. They include:

- A sudden hormone change (usually a drop in hormone levels)
- After the birth of a baby (delivery of the placenta causes the levels of pregnancy hormones to plummet)

- Discontinuing birth control pills or hormone replacement therapy
- High fever
- Acute trauma (surgery, physical injury or psychological trauma)
- Severe dieting (inadequate protein and iron intake)
- Under active or over active thyroid
- Diseases such as diabetes and lupus
- Chemotherapy
- Medications: These include retinoids, blood pressure medication, anti-depressants, certain birth control pills and even NSAID's (including Ibuprofen)
- Burns or radiation therapy

Note with stress alopecia, the loss over the scalp is general, not patchy and hair loss on other parts of the body can also occur.

Ascertain if your hair loss falls in the category of stress alopecia by simply running your fingers through your hair and seeing if the many hairs that are shed have clubbed shafts.

Are there other tests that should be done to diagnose telogen effluvium?

Check your iron and thyroid levels, but in most cases, your history is the most important factor for diagnosis.

What is the therapy for this type of hair loss?

Mostly reassurance. If the loss is due to a birth, illness, or a self-limited problem, it will stop and will not progress to baldness. New hair shafts will come in and in a few months the hair loss will diminish. Eventually the hair will grow back and become normal. Obviously if the loss was due to a medication, the drug should be stopped. (Note: If it was due to chemotherapy the course should be completed and hair growth will subsequently return.)

If iron levels are low, iron should be supplemented (after making sure that the cause was not abnormal bleeding, which could be a sign of a serious disorder), and if the thyroid level is “off,” this should be treated.

Can dyes, hair treatment, or certain hairstyles cause hair loss?

Pulling the hair tightly in a ponytail and the repeated traction used for hair extensions and tight braiding can cause some hair loss, especially in the temple area. This is called traction alopecia. If not corrected, the hair follicle may be permanently damaged. Chemicals that dye, bleach, straighten or perm the hair can also cause the shaft to break off, but once the chemical insult has stopped, the root portion should grow back.

What if patches of hair are coming out?

This may be due to a condition called alopecia areata. This is thought

to be an autoimmune disease in which antibodies attack the hair follicles and hair falls out in small, round patches. In some individuals, this can progress to total loss of hair on the head (alopecia areata totalis), or even complete loss of hair on the head, face (eyebrows, eyelashes) and body (pubic and underarm hair). The latter rare condition is called alopecia areata universalis.

What causes alopecia areata?

White blood cells attack cells in the hair follicles that make the hair, the follicle becomes small and hair production is diminished.

However, the stem cells that continually supply the follicle with new cells do not seem to be targeted, so the follicle does have a potential to re-grow hair. Although it's not clear why this occurs, there is some thought that it has a genetic basis, making individuals from the same family predisposed to developing this disease. There also may be some sort of trigger that initially causes the onset of hair loss, perhaps a virus or an environment contaminant.

There are currently many people of both sexes and all ages and ethnic backgrounds who suffer from alopecia areata. One in five individuals with this disease has a family member who has had it as well.

Alopecia areata also seems to occur in family members who have had other autoimmune diseases such as diabetes, rheumatoid arthritis, thyroid disease, systemic lupus, pernicious anemia or Addison's

disease. Those who develop alopecia areata have been found to have a higher occurrence of thyroid disease, eczema, nasal allergies and asthma.

If I develop this type of hair loss, will it grow back?

In general, there is a very good chance that the hair will grow back, but it can also fall out again. There's no way of predicting the ultimate course. Some individuals lose just a few patches of hair, it grows back and the condition doesn't recur. Others continue to lose and re-grow hair for years and still others lose all the hair on their head, face and body; rarely this is permanent.

How is this treated?

There are a number of therapies that are currently being used (when there are multiple therapies, it generally means that no one therapy is going to be absolutely effective). They include:

- **Corticoid steroids:** These are cortisone types of anti-inflammatory drugs that help to suppress the immune system; they can be given as a pill, topical ointment or as a local injection, directly into the hairless patches on the scalp.
- **Minoxidil 5%:** (known under the brand name of Rogaine). This promotes hair growth in several conditions in which the hair follicles are small and not growing to their full potential. It needs to be used on a daily basis. New hair growth can appear

in about 12 weeks, however if use of the drug stops, the new hair may fall out.

- **Anthralin** (Psoriatic): This is a tar like substance that is used to treat psoriasis; it changes the immune function in the affected skin. If it does work, new hair growth is seen in eight to twelve weeks. It is often used in combination with other medications.
- **Sulfasalazine:** This sulfa drug is used to treat autoimmune disorders.
- **Topical sensitizers:** These, when applied to the scalp, cause an allergic reaction that leads to itching and scaling, but also stimulate the hair follicles and can cause hair growth. Again, results are only seen after long-term use, usually three to twelve months.
- **Photo chemotherapy:** This too is used for psoriasis. It has helped about half those treated, but requires special equipment and treatment two to three times a week. There are concerns that it could increase risk of skin cancer.

Are there other causes for “patchy hair loss”?

Yes, it can be caused by fungal infections such as ringworm and even syphilis.

What about genetic or inherited hair loss?

We all know that men can become bald as they get older. As a matter of fact, inherited or male pattern baldness occurs in 25 percent of men by 30 and two-thirds are bald or balding by the time they reach 60. This male pattern baldness usually occurs in the hairline and around the crown. It continues until there is just a ring of hair along the side. The male pattern of balding occurs from the effects of testosterone, after it is converted to the more potent DHT (which is the only form that will attach to receptors on the hair follicle). Men who tend to male pattern balding do not have more testosterone; they simply have an increased conversion of testosterone to DHT in the scalp. (Note: The drug that helps prevent this conversion is called Finasteride, and is used to treat this form of baldness. It is for men only and has not been shown to be effective in women. As a matter of fact, there is concern about a woman being exposed to Finasteride, especially during her reproductive years, since it could cause fetal malformations.)

Women, however, do develop thinner hair as they get older and often this is accompanied by gradual hair loss. It occurs over the top and sides of the head, not in the crown. Once more, it is felt that genetics play a role and it is far more likely to occur if relatives on either side of their family has experienced balding as they age.

What therapies target this hair thinning and loss?

The drug Minoxidil, which was first developed to treat high blood pressure, was found to have a side effect of thickening hair growth in some of those treated. It's now available over the counter as a lotion applied to the scalp. No one quite knows how it works, but it seems to be effective in about 20 percent of women who develop diffused hair loss or thinning, especially if they are younger when they begin to lose their hair. The disadvantage is that if daily use is stopped, the new hair will fall out.

There are also surgical techniques for restoring hair. The two main options are:

- **Hair transplantation:** Minute punch holes of skin containing a few follicles of hair are taken from elsewhere in the body or the back of the head where there is more hair, and implanted into the thinning areas. Because women are more likely to have overall loss of hair on their scalp, this technique may be less successful for them than it has been for men.
- **Scalp reduction:** Devices are inserted in the skin to stretch the area of scalp that still has hair and the bald areas are removed. Flaps of scalp with hair can also be moved around the head.

What about all those so-called wonder products that are advertised on the Internet?

Beware if they say they are going to quickly and easily cure female pattern hair loss. They probably will not. You are providing money for the individuals who are using the Internet to promote their product, and there is a good chance the product will not promote your hair growth at all.

Bottom line: In most cases your hair loss is due to trauma to the hair follicle and after several months your hair will grow back. Make sure that you talk to your doctor before you try any products on your own. Reassurance and patience may be all you need.