



Each scalp hair is attached to the scalp via a 'follicle' and there are between 100,000 and 350,000 hair follicles on the human scalp. Each follicle grows its hair for an average of 1000 days (3 years) and then rests for a period of around 100 days (3 months). This pattern of active growth followed by the 'resting' period varies significantly from person to person and is influenced by age, diet and our state of health (1,2)

The length of hair that you are able to grow is controlled by the duration of the growing phase. If, for example, you have a short growing phase of 600 days, then the hair will grow to approximately 198mm: - that is 600 days at 0.33mm per day of growth (3) . With very long growth phases the hair can grow down to your feet!

Each hair follicle acts independently so while one hair may be growing, the adjacent result, humans do not actually have recognised moulting periods unlike birds and some animals (4).

We all lose some hair naturally each day when we brush, comb or shampoo and as long as new hairs are being produced at the same rate as those falling out, there will be no difference in hair volume. However if the rate of shedding exceeds production the net result is hair loss. For example: if an individual has been losing 50 hairs per day and this increases to 100, twice as many hairs would be observed when combing or shampooing. Whilst 100 hairs are still within the normal range, for this individual it represents a worrying 100% increase in lost hair. Consequently the hair on their head may begin to feel thinner to them although this may not be obvious to anyone else.

Causes of hair loss

A recent survey of over 1000 women found that a staggering 33% (or 1 in 3) reported hair loss. This was observed as an increase in the amount of hair shed or a reduction in the length grown, both of which contribute to a reduction in hair volume if the problem persists for any length of time.

Hair volume varies between individuals with some people having finer (or thinner) hairs than others. As we grow older, there is a tendency for our hair fibres to become finer and shorter over successive hair cycles, but years may elapse before any obvious difference is seen.

Hair volume is determined by three factors (5, 6) :

- the number of hairs present per square centimetre.
- the proportion of hair follicles in the growing phase.
- hair fibre thickness.

Almost all hair problems show up as a change in one or any combination of these three

factors (7) . Understanding what has changed is the key to identifying the underlying cause.

It is important to understand that 95% of hair loss complaints seen in women are caused by just two conditions. These are:

Chronic telogen effluvium (CTE).

Genetic hair loss (androgen-dependent alopecia).

Both of these are covered in detail on this site and the causes of the remaining 5% of cases are also summarised below.

What type of hair loss do I have?

If you think you have increased hair shedding, then you should use the link above "Will Florisene® help?" to help you determine what the cause might be. Since there are effectively only two main types of hair loss, CTE and Genetic Hair Loss, it is likely that your hair loss problem is due to one of these complaints.

The two conditions have similar symptoms but can be distinguished from each other by identifying which area of the scalp is affected.

If after using the chart "Will Florisene® help?" you think you may have CTE go to the link "How can I be sure that I have CTE?". If on the other hand, you feel your hair problem is the genetic type of hair loss, you should read on.

Other types of hair loss

As 95% of hair loss complaints seen in women are caused by one of two problems. Chronic Teleogen Effluvium (CTE) and Genetic Hair Loss. This next section deals mainly with Genetic Hair Loss and the remaining 5% of causes are also summarised.

Genetic Hair Loss

The most common hormonal hair loss problem affecting men and women is primarily genetic in origin (androgen-dependent alopecia or male pattern baldness). In this situation, the inherited tendency towards hair loss is activated by a change in the hormonal balance within the scalp and hair follicle (the precise mechanism is as yet unknown).

Whilst, CTE results in diffuse hair loss across the whole scalp, genetic hair loss extends from just behind the front hairline back across the top of the head to the crown area. This hair loss makes the scalp more visible and, if you have a parting, this will often look wider. A further difference is that unlike CTE, which is generally not apparent to other people, to others.

The onset of genetic hair loss is usually during the mid to late 20's. Effective medical treatment is available and usually involves oral anti-androgen and oestrogen therapy. Women requiring such treatment do require a referral to a medical specialist. Under such medical supervision, they can often re-grow up to 40% more hair (13, 14).

Post-Menopausal

While early adolescence and the mid to late 20's are potential problem times for women susceptible to genetic hair loss, the menopause is an equally critical time. This is because there is a natural reduction in the level of oestrogen (female hormone), resulting in a change of the balance between the oestrogen and androgen (male hormone). Consequently further hair loss is experienced or those previously unaffected by genetic hair loss during the menstrual years become affected. Anecdotal data suggests that some current types of HRT induce hair changes similar to those seen in genetic hair loss, although some women notice improvements as a result of oestrogen levels being restored.

"Hair loss can happen at any time of life, for a number of reasons"

Thyroid

Thyroid imbalances can produce significant changes in hair growth and hair quality (15). In the UK approximately 2% of women and 0.1% of men are affected. Only a blood test can diagnose this condition. The frequency of hypothyroidism (under active thyroid) increases significantly after the menopause, when up to 10% of women may be affected.

Pregnancy

It is well established that following childbirth 50% of women experience post-natal hair loss and this usually regrows without intervention. In those few women where it does not other reasons can normally be found. The precise cause of post-natal hair loss is unknown although some hormonal and nutritional factors have been identified. If you suffered in one pregnancy you may not after a second or subsequent pregnancy and vice versa (16).

Illness

General health disturbances can cause increased hair shedding 10 to 12 weeks after the start of the problem. The hair loss usually continues for a week or longer than the time of the illness. No treatment is required unless other complications develop. Sometimes additional shedding ensues due to the medication(s) given, or if prolonged fever is associated with the illness.

Other medical conditions

There are a number of other medical conditions and diseases causing hair loss. These all require medical attention. Perhaps the most common is the loss of hair in patches, called alopecia areata (AA). Although the frequency of AA is relatively small (about 0.1% of the population) it attracts a great deal of media attention. In its most severe form total loss of scalp and sometimes body hair, can occur. Most sufferers however only develop a few isolated patches, which correct themselves without any treatment. Since the cause of AA remains unknown there is no specific treatment as yet. Current research is focusing upon the immune system which looks like leading to a better understanding and hopefully an effective treatment.

Chronic telogen effluvium (CTE) - the most common type of hair loss

CTE is hair loss which is evenly distributed (diffuse) across the scalp, as opposed to hair loss just at the top of the head. Often it is only the sufferer who notices that their hair is shedding more than it used to. Women affected by this type of hair loss are usually between the ages of 18 - 50, and they generally show one of the following signs:

An increase in the number of hairs lost when shampooing, brushing or combing.

Less hair to clip or tie back than before.

Tests often show that women with CTE suffer from low iron stores in the body (8). The amount of iron stored by the body can be simply measured by your doctor. He/she will take a small blood sample from you and then have it analysed for its serum ferritin level.

However the more common measurement to be taken from a blood test is the haemoglobin level but this simply helps your doctor see if you are anaemic. Research has not established a link between haemoglobin levels and hair loss as it has with hair loss and serum ferritin values (8, 9).

In fact it is not unusual to find you have a normal haemoglobin level with lowered storage iron (serum ferritin).

Low dietary iron intakes has been known for some time to be a potential problem for millions of women, but it is only now that it is becoming recognised as an important factor that can contribute to increased hair shedding, and that this condition is really quite common (10 - 12).

What causes low iron stores?

Low serum ferritin levels usually result from the loss of blood during menstruation, which is just enough to cause a gradual depletion of iron stores in the body. Additionally eating a diet containing little or no red meat is likely to give rise to a lower amount of available iron.

CTE linked to low body iron stores

Research has shown that if the iron deficiency is corrected and the serum ferritin level is raised to a certain 'trigger point' then hair growth will resume. In fact, what actually happens is that the growing stage of the hair follicles is lengthened so, at any one time there are more hairs in the growing stage.

This means that hair volume will start to increase and any excessive shedding will reduce. However, this takes several months because ferritin levels can only be raised slowly. Also once the 'trigger point' is reached and hair growth starts, it takes 2 - 3 months for the shedding to reduce and another 3 - 6 months for the new hair to reach a length that contributes outwardly to fuller hair.

Whilst iron is usually the key factor, other nutrients also play an essential role. This was highlighted by research which showed that a significant proportion of women who were given an iron supplement failed to respond, even when given a high dose with additional vitamin C (which is known to help iron absorption).

This problem was overcome when it was realised that intake of the amino acid L-lysine was very low in many people's diets, particularly those who eat little or no meat.

When L-lysine was added to the other nutrients being given, most women went on to reach the target ferritin level, and their hair volume subsequently increased. When they stopped the hair shedding resumed several months later.

The answer to chronic telogen effluvium (CTE)

Hair loss caused by a nutritional shortfall of iron can take years to develop and so cannot be corrected overnight. In fact without a supplement it may be many years after the menopause before a woman's iron stores return to the level of a man of the same age.

From starting a supplement regimen, the minimum time before a reduction in hair shedding is noticed is about 16 weeks. It may take considerably longer to see the benefit in terms of hair volume because of the time the hair takes to grow long enough to contribute to the overall hair volume. If you see no benefit in hair volume after 6-9 months then you should seek professional help as there are probably other reasons for your hair loss.

Eating a large portion of red meat every day would certainly raise iron levels but is not an option for most people. An iron supplement will achieve the same results but research has shown that to increase ferritin levels quickly, you will need a high strength iron supplement supplying 72mg of elemental iron a day, for up to 6 months. Thereafter at least 24mg of iron a day will be needed (or double this if you have heavy menstrual bleeding). For a significant number of women this level of iron intake will not have the desired effect unless they also take L-lysine plus vitamin C and vitamin B12 to aid the absorption of the iron. A supplement which has been developed to provide those nutrients at the specific levels is Florisene ®

Product information

Presentation

Florisene® is a red/brown tablet providing the following nutrients:

Each tablet provides:

Vitamin C	24mg
Vitamin B12	3µg
Iron (as ferrous glycine sulphate)	24mg
L-Lysine	500mg

Florisene® is suitable for vegetarians.

Uses

Florisene® has been formulated to provide certain essential nutrients to help maximise hair growth in women.

Research has shown that a section of the female population; particularly between the ages of 18-50 have increased hair shedding (chronic telogen effluvium) and that there is a strong correlation between this hair loss and low iron stores (measured as serum ferritin).

Florisene® is especially recommended for women who have reduced hair volume (compared with several years ago) or who have recently noticed hair shedding as seen by more hairs in the brush, comb or when shampooing.

When Florisene® is taken at the recommended daily intake it can take up to 26 weeks, before the hair shedding is reduced. From that point, hair volume will start to increase but it will take several further months for the hair to grow to a length that contributes to hair volume.

Recommended intake

Initial intake. Take one tablet three times a day for up to six months or until excessive shedding stops. If after six months no reduction has occurred seek professional advice.

Maintenance intake. For maintenance purposes take one tablet daily but if you have heavy periods or eat little or no red meat, then your maintenance dose may need to be 2 tablets daily.

Florisene® should be taken with water half to one hour before food or on an empty stomach.

Try to avoid drinks containing milk or tea and coffee within an hour of taking Florisene® as these drinks affect the absorption of the nutrients.

Take only as directed.

Contra-indications, warnings, etc.

Do not take any other iron containing supplements whilst taking Florisene®.

If you are breast-feeding or pregnant consult your doctor before taking Florisene®.

Do not take Florisene® if you are taking oral antibiotics. Florisene® should not be taken within 2 hours of taking any medication, including indigestion remedies.