

## Minoxidil

### What is Minoxidil?

Minoxidil is a blood pressure medication that was discovered to result in increased hair growth. Manufacturers turned the tablets into a lotion that could be applied to the scalp to promote hair growth. It is now available in a 2% and 5% lotion and a 5% foam. Minoxidil promotes the anagen growing phase of hairs, keeping hairs growing for longer.

In the UK Minoxidil lotion and foam is an over the counter (OTC) medication and is not available as a NHS item. It can be bought in a single bottle or multiple bottles, providing several months' supply, and the latter often works out a more affordable way of purchasing. There are a number of different manufacturers with different brand names. The ingredients are often very similar and it is likely that they have a similar effect.

### What are the indications for topical Minoxidil?

The main indication for Minoxidil is male and female pattern hair loss. In these conditions the natural trend is a gradual miniaturization of hairs associated with a shortening of the growing phase of the hair cycle. Minoxidil maintains the growth phase limiting the miniaturization. The aim of treatment is preserving the current density and halting the decline, although some regrowth (10-20%) is possible. Minoxidil does not reverse all hair loss, nor does it work in all people.

### What are the side effects?

Minoxidil is very well tolerated. Minoxidil is often dissolved in a chemical called propylene glycol. This chemical can irritate the scalp causing dryness, redness and itch. Occasional a delayed or more immediate allergy can occur, but this is rare. Unwanted hair may grow if the lotion drips onto the face. Rarer side effects have been reported which include swelling, dizziness, weight gain and palpitations.

Due to the effect of Minoxidil on the hair cycle, it is common for some hairs to come out over the first few weeks. This settles within a couple of months and can be viewed positively as a sign that Minoxidil is having an effect on the hair cycle.

### How long do I need to use it for?

Initially Minoxidil needs to be trialed for 9-12 months to see if will have a positive effect on hair growth. In genetic hair loss, Minoxidil should be used for the long term if it prevents the condition from worsening and patients will need to commit to it on a once to twice daily basis for years, decades or life long.



### **How do I know if it is working?**

Minoxidil works biologically quite quickly within 3 months. Usually, the main aim is to prevent further thinning, which would be the normal expectation of a genetically driven condition. One can expect 10-20% thickening, a modest improvement, in good responders, which is probably maximal around 2 years into therapy. An objective way to assess response is to have a videotrichogram at baseline and have this professionally analysed. This can be repeated at an appropriate time interval eg 6 or 12 months.

Videotrichogram images are recommended as part of the baseline assessment. These images can be sent to Tricholab for manual assessment of hair fibre, diameter, density, cumulative hair thickness, ratio of thick terminal hairs to thinner vellus hairs and number of hairs per follicular units. Just like all other investigations sent to labs for assessment, there is an additional lab charge for this. You will receive your own report for your records and for future comparison.

### **I've seen higher strengths and preparations with added ingredients – are they better?**

It is common for some hair clinics, trichologists and specialists to add other ingredients or increase the strength in the belief that these will work better. There are no head to head trials with sufficient numbers or robust outcome measures to demonstrate superiority to the standard over the counter preparations. However, additional hormones (eg Oestradiol in post menopausal women) or anti-hormone (eg Finasteride for male patients) can potentially have a medical effect that may be preferable to taking an oral equivalent that could have potential cancer or sexual side effects. Caffeine is also sometimes added as in lab conditions that has been shown to accelerate hair growth. One other advantage of specially made preparation is the ability to avoid Propylene Glycol using an alternative alcohol base or a botanical base.

### **Is Minoxidil still available as an oral tablet?**

Yes. Minoxidil is still available as a blood pressure medication. It tends to have very little effect on people with normal blood pressure but can have marked benefit on hair growth. For some patients this will be more convenient than applying a lotion or foam. It is a prescription item and you will need a doctor to both prescribe it and monitor you. Side effects are usually very limited but ankle swelling is not uncommon and you can get some hair growth on the face and other body sites.

