

WOMEN'S Guide to Minoxidil Everything You Need to Know

Will it work for you? How long does it take to see results? Get answers to all your questions in this ebook.

An Official Daniel Alain Resource

Women's Guide to Minoxidil - Everything You Need to Know
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Introduction

While hair loss has been widely regarded as a male issue for decades, it's plagued millions of women worldwide who struggle to regain control over their hair. It's a grueling, emotional journey inciting stress and insecurity. And it doesn't help that there are thousands of treatments promising quick results, fuller hair, and hair regrowth. If only one of those could give you back your hair — and confidence.

Losing your hair is typically a result of female-pattern baldness or genetic hair loss. Medically, this is referred to as androgenetic alopecia. There are many causes of women's hair loss beyond genetics, including hormones, stress, diet, postpartum, cancer-related, seasonal shedding, and environmental causes. According to Cleveland Clinic, over 50% of women will experience noticeable hair loss during their lifetime.

We know it's a devastating journey, and sorting through the myriad of treatments is exhausting.

Women who experience hair loss often research hair loss or regrowth treatments. The quest is lined with solutions ranging from topical serums and prescription treatments to over-the-counter drugs, to alternative hairpieces such as wigs and toppers. To complicate things further, there are proprietary procedures offered by dermatologists and hair surgeons across the nation. It can make finding the right solutions overwhelming.

If you've heard about Minoxidil or the popular brand-name Rogaine®, you likely have many questions about whether it'll help treat your hair loss. Whether you're just starting to lose your hair, or you've tried all the solutions with no success, all roads on the women's hair loss journey seem to lead to Minoxidil. But is it worth it? Will Minoxidil work for you? If you're already using treatments, why isn't it working? How long will it take to show results?

In this e-book, we'll look at the clinical studies, claims, and findings on Minoxidil's efficacy to help you get a comprehensive understanding of the drug and its effects — positive and negative.

Meanwhile, you've grieved over your lost hair; it has altered your confidence, self-image, and identity. You may experience the harsh psychological effects of hair loss, which is statistically proven to induce higher levels of stress, anxiety, and depression.

You can and will regain control over your hair loss. The first step is educating yourself on everything there is to know about Minoxidil. With these answers, you'll be informed to make a decision that empowers you to feel confident, in control, and on the road to treatment that's right for you.

What's is Minoxidil?



Minoxidil is the only
FDA-approved drug for topical
hair regrowth. Commonly known
by brand-name versions like
Rogaine®, Hers, Keeps,
Keranique®, and Nioxin®,
Minoxidil has proven effective at
stimulating hair regrowth and

greater hair density in some women with genetic hair loss. That said, it doesn't work on all women.

Minoxidil was initially researched as a medication for hypertension (high blood pressure) in 1961. When people using it started experiencing hypertrichosis (excessive hair growth all over the body) as an unexpected side effect, U.S. pharmaceutical company Upjohn (now Pfizer) began exploring the drug as a hair loss treatment. Specifically, researchers wanted to stimulate non-vellus hair regrowth.

Vellus hairs are fine hairs often sprouted from androgenetic alopecia. Non-vellus hairs are coarser and denser, regrown from balding or completely bald scalps.

Minoxidil has undergone countless trials and studies, and all of them show varying results. In early trials, Minoxidil revived atrophied hair follicles and enlarged them with consistent application. But for how many women?

The varied results lead experts to agree that **Minoxidil is not universally effective**. Despite many brand-name versions of the drug claiming broadly positive success rates

Minoxidil is only significantly effective for

$$30\% - 40\%$$
 of women

Why are results so varied? Until recently, this was unknown.

The research and development team at Daniel Alain discovered the SULT1A1 enzyme and how its presence is the key to Minoxidil's efficacy. Without a significant level of this enzyme, Minoxidil is ineffective.

Minoxidil comes in two forms and concentrations, a liquid or foam solution at either 2% or 5%.

The topical form is a liquid applied to the scalp with a dropper. The foam solution is sprayed and rubbed onto the scalp. While there are two concentrations (2% and 5%), women are advised to be cautious when using the 5% solution, as it has stronger side effects, including the development of new facial hair (hypertrichosis).

A Closer Look At Genetic Hair Loss

Genetic hair loss has a very distinct pattern and progression. The Ludwig Scale illustrates progressive hair loss patterns in women. It defines several common types of hair loss patterns associated with female pattern baldness and can help you determine your level of hair loss.

The Ludwig Scale

Type I - Mild (Minimal thinning that can be camouflaged with hair style techniques)









Type II - Moderate (Characterized by decreased volume and noticeable widening of the mid line part)





Type III - Extensive (Describes diffused thinning, with see-through appearance on the top of scalp)



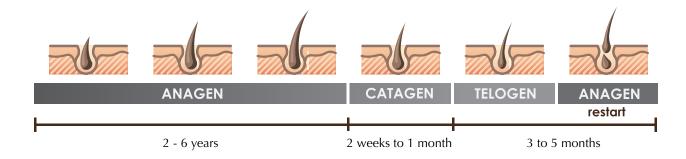




What's is Minoxidil Used For?

Minoxidil is now most commonly used to stimulate hair regrowth in women experiencing hair loss and thinning.

The drug is a vasodilator thought to dilate blood vessels on the scalp and face. Once enlarged, hair follicles open up to absorb more growth-promoting nutrients and oxygen, necessary to regulate a healthy hair growth cycle.



The hair growth cycle has three main stages: anagen, catagen, and telogen. The exogen stage is an extended fourth stage where people experience heightened shedding.

Women with androgenetic alopecia have a shortened anagen phase, where the newest hair growth occurs. About 85% of all new growth happens during this stage. When the body has an excessive response to androgens, a slow, progressive onset of follicular miniaturization occurs. The hair follicles grow thinner hairs, and the anagen phase shortens progressively, eventually ceasing all new hair growth as the hair cycle stops regenerating, stagnating in the telogen (resting) phase.

The anagen phase prolongs with consistent topical application of Minoxidil, the active ingredient in most brand-name women's hair loss serums. Some women begin to experience greater hair density; hair feels thicker and denser on the scalp, with the most significant improvements seen at the vertex (crown) and hairline.



How Effective is Minoxidil in Treating Women's Hair Loss

Minoxidil's effectiveness has been studied by doctors, dermatologists, and researchers worldwide. The results are never the same for each study, but we can gather only a handful of women experience significant results. Most women may experience minimal results, if any.

Is Minoxidil safe and effective for women? One study found that topical Minoxidil is safe and effective for treating androgenetic alopecia. Another study showed that Minoxidil was more effective at treating female androgenetic alopecia than a placebo (sugar pill).

While studies show that Minoxidil yields favorable results for most participants, the results combine everything from "minimal" to "moderate" to "dense" hair regrowth into one pool, despite drastic differences.

For example, the drug label review for 2% Minoxidil cites the results of a clinical study testing Minoxidil's effectiveness on white women. At first glance, the study results are relatively positive, with 59% of participants experiencing growth after taking Minoxidil for eight months.

Break it down to the type of hair regrowth, and only 19% of participants responded "moderately" to Minoxidil, while most (40%) saw minimal regrowth.

Standing alone, this data communicates that the drug works well for only some women. But complicating things further are the placebo results. 33% of women taking the placebo pill also reported minimal regrowth, with 7% reporting moderate hair regrowth. Does Minoxidil really regrow hair for women, or does it have a placebo effect?

While any growth is still an advancement, it isn't as effective as most women would hope it to be. Moreover, women will have to **commit to using the 2% solution of the product twice daily indefinitely and once daily with the 5% solution** to maintain results. For the rare occurrence of dense hair regrowth, the financial and time investment may produce worthy results.

The drug is proven to be most effective in the early stages of hair loss. So while it makes sense for it to be a natural first step in treating genetic hair loss, it's essential to consider that it won't show results quickly. The question remains: why do some women see results while others don't?

Through Daniel Alain's lab and clinical studies, we've pinpointed the need for SULT1A1 enzyme activity in those with androgenetic alopecia. After thirty years of guessing at Minoxidil's mixed efficacy, we know with 95.9% accuracy that women must have these enzymes to see results from Minoxidil.

Even then, there is no guarantee of precisely how effective the drug will be at regrowing each person's hair. While those with the enzymes will see results, the degree of results will vary between minimal to dense growth.

How Long Does It Take to See Results with Minoxidil?

Minoxidil takes a long time to show results in responders, and for a few reasons.

Many brands will market their Minoxidil products as being effective in as little as three months. But studies say otherwise. In a 48-week study of 381 women, it took almost a year to see maximum regrowth.

It's recommended that women take the less concentrated 2% solution which means most women won't see peak results



until 6-12 months. And, results only come if you apply the drug twice daily, indefinitely.

Some women might notice startling effects after the first few weeks of use — excessive shedding. While it seems counterintuitive, this onset of shedding is a natural response as the product revives the hair growth cycle, pushing out old hair to make way for new growth. Hairs go dormant during the resting (telogen) phase. Minoxidil stimulates them to life, sending strands back through to the beginning of the cycle, the anagen phase, to stimulate growth.

As alarming as it may be, this is a natural response to the alteration to the hair growth cycle. Before beginning Minoxidil treatments, the hair growth cycle in androgenetic alopecia has drastically shifted. Instead of hairs shedding during the telogen phase and new hairs entering the anagen (growth) phase, the telogen phase becomes prolonged; hair sheds, falls out, and does not regrow. Minoxidil works to shorten the telogen phase, and in doing so, you may experience an onslaught of shedding in those first 2-4 weeks. Many people using the drug have the gut reaction to stop treatments. There's nothing worse than losing more hair when you're working so hard to retain your existing hair. We hear you.

But try to be patient because **shedding is the first strong indication that Minoxidil is working**.

If the shedding doesn't cease after four weeks, there may be a bigger problem occurring, in which case, you'll want to consult with a dermatologist or your physician.

Once you get through this strenuous period, the product will start producing more hair as desired. This happens at around 4-8 weeks. Biologically, your body revives and regulates the hair growth cycle, shortening the telogen phase and prolonging the anagen (growth) phase.

What can you expect to see when this happens? At around eight weeks, you'll start to notice new hairs growing in that are longer and thicker. You won't be shedding as many hairs either, so your hair will feel fuller.

From there, you'll continue to notice this progressed regrowth and fullness. After about 4-6 months, you'll begin to see maximum growth. However, this isn't always the case. Some users report the best results after about one year.

Why do some people see results at three months and others wait one year? We don't know precisely why there is such a broad range in the results timeline. There are various reasons we can hypothesize — inconsistent application, more severely damaged hair follicles, biological differences, the intercession of other medications — but these are hunches unconfirmed by clinical data.

To set yourself up for success, follow the instructions on the packaging for best results, and stick to consistent applications.

What Are the Side Effects of Minoxidil?

Minoxidil has some adverse effects that disqualify it as a long-term treatment for some people. The most common adverse effects of topical Minoxidil are contact dermatitis (an itchy, red rash or skin inflammation) and hypertrichosis (excessive hair growth that ca occur anywhere on the body).

Researchers attribute the propylene glycol content of Minoxidil's liquid form to adverse effects like itching and contact dermatitis, a red rash on your scalp. A Reuters interview confirms that Minoxidil's foam solution is superior to the liquid because it doesn't contain propylene glycol, resulting in fewer adverse effects.

Another side effect of Minoxidil is hypertrichosis on the face and eyebrows. This is more common with the 5% solution, so women are often advised to opt for the 2%, less potent version instead. Minoxidil is more likely to cause hypertrichosis in women than in men. And most women don't wish to grow facial hair when trying to regrow the hair on their head.

Let's look at a few studies where hypertrichosis appeared in women taking Minoxidil.

One study examined 1,333 women taking 5% Minoxidil, 2% Minoxidil, and placebo. 4% reported hypertrichosis and facial hair, with more severe hypertrichosis appearing in women taking the 5% solution. The researchers make a point to mention, however, that 27% of all participants had some facial hair as a baseline.

Another study examining 381 women's reactions to Minoxidil's 5% and 2% solution also showed higher instances of hypertrichosis from the 5% solution. This is why women's Minoxidil is primarily only available in the 2% solution to avoid unwanted facial hair growth.

Hypertrichosis from Minoxidil has even been known to occur without topical application. A study of three infants whose parents took topical Minoxidil showed that the babies developed hypertrichosis from skin-to-skin contact. Another study documents hypertrichosis in an infant breastfed by a mother who took Minoxidil.

One Brazilian woman took the 5% Minoxidil solution to treat her alopecia areata. After eight weeks of treatment, she developed generalized hypertrichosis all over her body, including her face, eyelashes, forearms, back, and chest.

The Brazilian doctors studying this case assert that hypertrichosis is usually limited to the face and limbs, but this patient experienced it everywhere. They suggest that while more follicular sensitivity could have explained the severity of these effects, it's also possible that the patient overused Minoxidil or may not have applied it properly.

All of these instances of hypertrichosis might feel like a scary deterrent from Minoxidil. Hypertrichosis is a proven side effect though, especially in women, so you should consider the risk before taking the drug. As well, consider these facts about Minoxidil and hypertrichosis:

- Hypertrichosis to the extent shown in the Brazilian patient is rare
- Minoxidil's 2% solution dramatically limits the chance of hypertrichosis as a side effect
- Proper application and dosage limit your chance of adverse side effects

Apart from unwanted body hair, is there anything else you should worry about before taking Minoxidil?

Studies also indicate serious adverse effects in oral Minoxidil, like:

- Sodium and fluid retention
- Pericardial Effusion
- Pulmonary Hypertension
- Increased body weight
- Headaches
- Itchy eyes

These adverse effects likely explain why topical Minoxidil is only available over-the-counter, and oral Minoxidil requires a prescription.

How to Use & Apply Women's Minoxidil

Minoxidil is an FDA-approved, over-the-counter drug. All companies that sell Minoxidil must follow the same FDA-approved directions for use. Some companies may add additional best practices on their website or marketing materials to help you get the best experience and efficacy from application.

Let's look at the instructions for women's 2% Minoxidil solution as an example:

Directions for Use

- 1. Remove the inner cap. To remove, push down and turn in direction of the arrows on the cap.
- 2. Part your hair in the area of hair thinning/loss. Follow the instructions below for using the dropper applicator and apply one mL 2 times a day directly onto the scalp in the hair loss area. Do not use more. Spread the liquid evenly over the hair loss area. If you use your fingers, wash hands with soap and water immediately. Each bottle should last about one month, if used as directed. Use a mild shampoo if you wash your scalp before applying.

Using the Dropper Applicator

- 1. Squeeze the rubber bulb and insert the dropper into the bottle. Release the bulb, allowing the dropper to fill to the 1 mL line. If the level of the solution is above the 1 mL line, squeeze the extra amount back into the bottle.
- 2. Next, place the tip of the dropper near the part of the scalp you want to treat and gently squeeze the bulb to gradually release the solution. To prevent the solution from running off the scalp, apply a small amount at a time.
- 3. After each use attach the dropper to the bottle to make it child-resistant by turning it clockwise until tightly closed.

Missed Dose

Life gets busy, and one of the applications might slip off your radar. If you forget a dose, experts recommend simply applying it once you remember. If you've missed your dose by a few hours, you can apply it when you remember. If it's close to your next dosage time, do not double up on the dosage and skip one dose.

To optimize Minoxidil's effects, start at the earliest onset of hair loss and apply it correctly and consistently. Missing doses and applying to the wrong areas could compromise the results.

Adverse Drug Interactions for Minoxidil

If you take other medications, they're **not likely** to interact adversely with Minoxidil. However, if you're taking any other drugs, consult your doctor before taking Minoxidil.

There are two drugs that may interact with Minoxidil, albeit not dangerously:

Systemic Cyclosporine: This drug is used to treat ocular surface disease and is known for its side effect of hypertrichosis. If you take this drug with Minoxidil, you're taking two drugs with the hypertrichosis side effect, which can result in some significant facial hair growth.

Baby Aspirin: Doctors assert that baby aspirin may negatively inhibit sulfotransferase enzymes in human hair. In other words? You might notice reduced effectiveness in Minoxidil if you take baby aspirin.

Is Minoxidil Expensive?

We'll break down the cost of Minoxidil from various brands in a bit. But it's important to note that women's Minoxidil seems to be subject to the pink tax, a price discrepancy where female-marketed products are often priced higher than men's products with the same ingredients. Let's look at Rogaine® as an example.

Dermatology professor Dr. Jules Lipoff conducted a study that highlighted how women pay more than men for the same amount of Rogaine®'s 5% solution. While the ticket price doesn't reveal much, the truth lies in the cost per unit.

Women pay the same price for Rogaine®'s 2% solution as men do for the 5% solution. So, they're technically paying more for the same drug since they're receiving a lower potency.

This is problematic because to this day, despite millions of women managing hair loss, it's still socially regarded as a male issue, and brands capitalize on that discrepancy, often charging women more for the same product.

What Are Common Brand Names of Women's Minoxidil?

The global Minoxidil market is projected to reach 1.2 billion by 2024. Not surprisingly, many brands want a piece of the pie, which is why you'll find so many subscription and over-the-counter options for Minoxidil. Chances are, the ads or claims you've heard about Minoxidil came from one of the brands we'll share here.

But be wary of clever claims for hair growth from brands selling serums that don't contain Minoxidil, such as VegamourTM GRO Hair Serum or Nutrafol Growth Activator— they are not clinically proven to regrow hair and do not contain Minoxidil. Why is that important? Because Minoxidil is the only FDA-approved, clinically proven drug for women's hair loss.

Although results are varied and inconsistent, Minoxidil has shown statistical efficacy for a percentage of women. And these other brands touting hair growth? Although they may have conducted consumer perception studies, they don't have the clinical data to support growth claims, meaning they most likely will not regrow your hair.

The bottom line is each brand name that can legally claim hair growth contains the same FDA-approved drug, Minoxidil, which can encourage hair growth and density.

Below, we'll share the most popular brand names of women's Minoxidil, comparing and reviewing price, size, claims, and if they offer convenient subscription services.

- Women's Rogaine® The original brand name for Minoxidil
- Keranique® Offers hair sets including Minoxidil
- Musely Highest concentration (6%) in a proprietary blend
- Hers Offers a Minoxidil / Finasteride combo
- Shapiro MD Offers personalized treatment plans

Women's Rogaine®

Rogaine® is Minoxidil's most popular over-the-counter brand name and has been around for over thirty years. The company began selling Minoxidil treatments to men in 1988 and women in 1991. Currently, Rogaine® sells two women's products: a 5% foam and 2% liquid solution.

Women's Rogaine® 5% Minoxidil Unscented Foam, 60g

Rogaine®'s foam solution for women costs \$51.99, and Rogaine® recommends purchasing a 4-month supply to start for best results. The brand claims that the foam solution was clinically proven to regrow hair for 80% of women in a 6-month study and that its solution provides the fastest results on the market. Additionally, Rogaine® claims clinical results (observed during clinical studies) appeared after four months, while "visible results" most often appear after 6 months.

In addition to Minoxidil, Rogaine® contains botanical extracts and emollients in its foam solution to condition the scalp and prime it for optimal hair growth. Another ingredient is alpha hydroxy acid (AHA), a natural exfoliator used to open the hair follicles.

Women's Rogaine® 2% Minoxidil Topical Solution, 60mL

Women's Rogaine® 2% solution costs \$28.99 for a 60 mL bottle or a one-month supply. Rogaine® recommends purchasing a 3-month supply at \$51.99. The brand claims its 2% solution shows results in three months and offers a money-back guarantee if you don't see results within 120 days (4 months).

Rogaine® for women is generally well-received, with an average 4-star rating on Amazon. After using the product, many women experienced less hair fall and greater hair density. However, some reviewers report side effects of facial hair growth and allergic reactions. Some reviewers complain of dissatisfactory results.

Keranique®

Keranique® offers a few hair products for women, including shampoo, conditioner, and various repair treatments. Among its product line is the Keranique® Hair Regrowth Treatment, a spray-liquid solution that contains Minoxidil, alcohol, purified water, and propylene glycol.

KERANIQUE 2% Minoxidil Topical Solution USP, 60mL

Keranique® instructs customers to apply 1 mL with sprayer (6 sprays) twice daily on areas of the scalp displaying hair loss or thinning.

Musely

Musely's "The Hair Solution" is a 6% Minoxidil solution for women. The website highlights a 4.7-star rating amongst 1,400 reviews, with generally positive comments about the product's effectiveness.

The Hair Solution, 60mL

This product features the highest potency for women's Minoxidil, combined with additional ingredients including finasteride, spironolactone, tretinoin, and ketoconazole. While you need a prescription for the product, Musely offers an online doctor's consultation for \$90. The pay structure is subscription-based, starting at \$70 for two months, or \$1.20 per day. A 60 mL bottle is a two-month supply.

Although Musely offers a 6% Minoxidil solution, reviewers don't report unwanted facial hair and hypertrichosis.

Hers

Sister offering to men's health brand Hims, Hers offers subscription-based health services to women, including Minoxidil for hair loss.

Minoxidil 5% Foam for Women, 60g

The 5% foam solution, priced at \$24.99 contains the same ingredients as the 2% foam. The difference is that the solution is foam and has a higher concentration. Hers claims results after 3-6 months with its 5% solution and offers either a one-time purchase or subscription option.

Women's Minoxidil 2% Topical Solution, 60mL

Hers offers two ways to purchase its Minoxidil 2% solution for women. Either a one-time purchase of a 3-month supply for \$45 or a \$15.00/month subscription where you receive two bottles every two months. The price per unit is the same if you compare the two options, though the subscription may be more convenient.

Ingredients-wise, Hers' solution is simple: 2% Minoxidil, water, alcohol, and propylene glycol, the last ingredient is known to cause the side effect of contact dermatitis for some people. Hers claims that their 2% solution will show results in 3-6 months.

In addition to a Minoxidil solution, Hers offers a combination Minoxidil and Finasteride product. The Topical Finasteride and Minoxidil spray contains 0.3% finasteride and 6% Minoxidil. The brand will connect you with a medical provider, who will determine if a prescription will be beneficial for you.

ShapiroMD

The brand offers personalized access to in-house doctors to help tailor your treatment plan, and you can fill out a quiz on their website for a recommendation.

Keep in mind that the prices aren't listed online, and the product requires a doctor's prescription. Reviews are overall positive, with many customers praising Shapiro MD's personalized attention and their hair growth results.

Shaprio MD 2% Minoxidil Serum Hair Regrowth Treatment, 60mL

Shapiro MD offers a 2% Minoxidil serum for women and claims the product stimulates healthy blood flow to the scalp to stimulate hair growth. A 2-month supply costs \$31.92 for a 60 mL bottle.

Minoxidil: Should You Use It?

Is Minoxidil for women's hair loss the right solution for you? We know how exhausting it is to lose your hair and try various treatments to no avail. We want you to get your confidence back and feel empowered to seek solutions that provide effective treatment. That starts with equipping yourself with knowledge about popular hair loss products.

Every woman's hair loss journey is unique, and Minoxidil might be a great solution to treat your hair loss or thinning. If you're a responder, you may experience minimal to significant hair regrowth and greater hair density after using Minoxidil regularly for a year.

But which brand name should you choose? Review the pricing, reviews, and ingredients to decide the best choice for your needs. Refer to this eBook when any questions arise about Minoxidil.

What if you don't respond to treatments? That's a sobering reality that can squash your hopes and leave you back at square one; it can be stressful and disappointing. But there is hope, and there are effective solutions available. If you've ruled out Minoxidil, you can invest your time and money into solutions that are right for you — and avoid the stress of trying the product for months on end without results.

Overall, Minoxidil has delivered for some and disappointed others. Results aren't guaranteed, but if you have genetic hair loss and discover that you're a responder after taking the Minoxidil Response Test, proceeding with Minoxidil is a practical treatment course.









