PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: Minoxidil/Finasteride/Fluocinolone/Tretinoin
Form: Topical Solution

Drug Class:

- Minoxidil: Antihypertensive vasodilator
- Finasteride: Type II 5-α-reductase inhibitor (antiandrogen)
- Fluocinolone: Corticosteroid
- Tretinoin: Vitamin A derivative topical retinoid

Mechanism of Action[1,2,3,4,5]**:**
When compounded together, Minoxidil, Finasteride, Fluocinolone, and Tretinoin have the potential to provide a multi-targeted approach that enhances overall hair growth and preservation. Together they are intended to work by:

- Stimulate vascular and follicular activity by opening potassium channels in dermal papilla cells, to enhance blood flow and nutrient delivery to follicles, promoting local growth factors.
- Lower levels of DHT (a hormone linked to hair loss) in the scalp, to help protect hair follicles from shrinking and to slow down shedding.
- Control inflammation by dampening cytokine signaling, reducing perifollicular inflammation, and improving tolerability of other ingredients.
- Improve penetration and cycling by increasing absorption of minoxidil and promoting keratinocyte turnover to synergize with follicular cycling.

Indications Commonly Prescribed For:

- Androgenetic alopecia
- Post-inflammatory shedding
- Cosmetic hair quality: To improve density, thickness, and retention
- Inflammatory scalp alopecia

Before Use: Let your healthcare provider know if you have any medication allergies before you take this compounded preparation. Let your healthcare provider know if you have any liver or kidney problems. Let your healthcare provider know of all supplements you are currently taking.

Contraindications:

- Hypersensitivity to any component
- Scalp irritation or dermatitis where barrier is compromised
- Pregnancy
- Untreated scalp infection
- Significant cardiovascular disease

Cautions: Let your Healthcare provider know if you experience any adverse side effects. Benefits persist only while on therapy.

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Warnings and Precautions:

- Initial shedding: Minoxidil may cause early "shedding" as follicles transition.
- Retinoid irritation: Tretinoin can cause erythema, peeling, burning; start low or cycle dosing.
- Tretinoin may increase minoxidil absorption: Increased skin permeability may enhance minoxidil delivery but could also increase systemic exposure.
- Topical steroid risks include atrophy, telangiectasias, or rebound dermatitis with prolonged use.
- Scalp conditions**:** Use with caution with psoriasis, eczema, or other compromised barrier.
- Finasteride may lower serum DHT; counsel men of reproductive age.
- HPA-axis suppression: Prolonged use of corticosteroids, high concentrations, large treatment areas, occlusion, or damaged skin can suppress the hypothalamic-pituitary-adrenal axis.
- Prolonged or excessive fluocinolone exposure may cause skin atrophy, telangiectasia, folliculitis, hypopigmentation, or other local corticosteroid effects.
- Corticosteroids suppress local inflammatory responses and may mask or worsen bacterial, fungal, or viral infections.
- Finasteride can interfere with normal development of external genitalia in a male fetus. Pregnant patients or those who may become pregnant should avoid exposure unless a prescriber has specifically evaluated the formulation and risk.
- Systemic finasteride absorption: Topical administration can reduce systemic exposure relative to oral therapy but does not eliminate it. Sexual dysfunction, breast symptoms, mood changes, and other systemic finasteride-associated effects remain possible.
- Treatment discontinuation: Benefits from minoxidil are generally not permanent after therapy is stopped. Newly maintained or regrown hair may gradually be lost over several months as follicles return toward their untreated growth pattern.
- Cardiovascular disease: Use cautiously in patients with hypotension, arrhythmias, heart failure, or significant cardiovascular disease because systemic minoxidil absorption can produce cardiovascular effects.

Adverse Reactions: If you experience any side effects or adverse reactions, including those not listed, please contact your healthcare provider. Seek emergency care if symptoms are severe.

Common:

- Mild skin irritation, redness
- Itching, Dryness, Flaking, Scaling
- Initial shedding
- Unwanted facial hair growth
- Contact dermatitis
- Folliculitis
- Headache, dizziness, photosensitivity
- Decreased libido, mood changes
- Erectile dysfunction
- Ejaculatory changes
- Reduced semen volume
- Breast tenderness or enlargement

Rare:

- Changes in blood pressure
- Edema
- Tachycardia, arrythmia
- Chest pain
- Electrolyte abnormalities
- Palpitations
- Corticosteroid-induced skin atrophy
- HPA-axis suppression
- Hormonal effects

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Interactions:

- Concurrent strong vasodilators or antihypertensives may have additive hypotensive effect if absorption is higher than expected.
- Tretinoin may increase minoxidil absorption and heighten irritation if used with other keratolytics.
- Additive antiandrogen effect with dutasteride; may alter PSA levels.
- Corticosteroids: Local immunosuppression if used with other topical immunomodulators.
- Concurrent tretinoin, retinol, exfoliating acids, or alcohol-heavy formulations may substantially increase scalp irritation and compromise the skin barrier.
- Additional corticosteroid exposure may increase the risk of skin atrophy and systemic corticosteroid effects.
- Oral finasteride, dutasteride, or topical 5-alpha-reductase inhibitors may further suppress DHT and potentially increase systemic antiandrogen-related adverse effects.

Use in Specific Populations:

- Pregnancy: Avoid if pregnant or planning pregnancy due to teratogenic risk
- Pediatrics: Avoid unless under dermatologic supervision
- Geriatrics: Start with the lower minoxidil strength (2%) and monitor tolerability

Storage:

- Store in original container at room temperature (up to 30°C or 86°F)
- Store in a cool dry place away from heat, sunlight, and moisture

How to Use: This compounded preparation is provided as a topical solution in a spray bottle. Apply the directed number of sprays evenly to the affected areas of the scalp, usually once or twice daily as instructed by your provider. Gently massage the solution into the scalp if recommended. Wash your hands after application. Avoid getting the solution in your eyes, mouth, or on broken skin. If you miss a dose, apply it as soon as you remember, but do not double the application if it is nearly time for the next one. Consistent use is important, and desired results may take several weeks to become noticeable.

Monitoring Parameters:

- Skin/hair response over 8–12 weeks
- Prostate screening (men >50): Adjust PSA interpretation if systemic absorption suspected
- Steroid use: Monitor for skin atrophy or telangiectasia if fluocinolone is used long term.
- Sexual or reproductive adverse effects

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Citations:

1. Li M, Marubayashi A, Nakaya Y, Fukui K, Arase S. Minoxidil-induced hair growth is mediated by adenosine in cultured dermal papilla cells: possible involvement of sulfonylurea receptor 2B as a target of minoxidil. J Invest Dermatol. 2001;117(6):1594-1600. doi:10.1046/j.0022-202X.2001.01570.x
2. Kaufman KD, Olsen EA, Whiting D, Savin R, DeVillez R, Bergfeld W, Price VH, Van Neste D, Roberts JL, Hordinsky M, Shapiro J, Binkowitz B, Gormley GJ; Finasteride Male Pattern Hair Loss Study Group. Finasteride in the treatment of men with androgenetic alopecia. J Am Acad Dermatol. 1998;39(4):578 589. Available from: Radcliffe Department of Medicine website. Accessed September 17, 2025.
3. Kwon OS, Pyo HK, Oh YJ, Han JH, Lee SR, Chung JH, Eun HC, Kim KH. Promotive effect of minoxidil combined with all-trans retinoic acid (tretinoin) on human hair growth in vitro. *J Korean Med Sci*. 2007;22(2):283-289. doi:10.3346/jkms.2007.22.2.283
4. Gregoire S, McIntosh B, Sanchez K, Biba U, Mostaghimi A. Local corticosteroids for alopecia areata: a narrative review. *Dermatology and Therapy*. 2025;15:1607–1631. doi:10.1007/s13555-025-01421-2

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