PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: Minoxidil/Spironolactone/Latanoprost
Form: Topical Solution

Drug Class:

- Minoxidil: Antihypertensive vasodilator
- Spironolactone: Mineralocorticoid receptor antagonist with antiandrogen activity
- Latanoprost: Prostaglandin F2α analog

Mechanism of Action[1,2,3]:

When compounded together, Minoxidil, Spironolactone, and Latanoprost 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.
- Prolong hair growth cycle, increasing follicular proliferation, pigmentation, and shaft thickness.

Indications Commonly Prescribed For:

- Androgenetic alopecia
- Cosmetic hair quality: To improve density, thickness, and retention.

Before Use: Let your health care provider know if you have any medication allergies before you take this compounded preparation. Let your health care 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
- Systemic absorption of high minoxidil concentrations may cause hypotension

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

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.

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Warnings and Precautions:

- Initial shedding: Minoxidil may cause early "shedding" as follicles transition.
- Systemic absorption risk: monitor for hypotension and tachycardia.
- Concurrent use with retinoids or acids may increase scalp sensitivity—stagger products.
- Scalp conditions**:** Use with caution with psoriasis, eczema, or other compromised barrier.
- May lower serum DHT; counsel men of reproductive age.
- Can darken skin/hair at treated sites.

Adverse Reactions:

Common:

- Mild skin irritation, redness
- Hyperpigmentation
- Itching, Dryness
- Initial shedding

Rare:

- Nausea
- Tachycardia, Hypotension
- Dizziness
- Hormonal effects (breast tenderness)

Interactions:

- Concurrent strong vasodilators or antihypertensives may have additive hypotensive effect if absorption is higher than expected.
- Avoid concurrent scalp irritants (retinoids, acids).
- Additive antiandrogen effect with spironolactone or other antiandrogens.

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

Monitoring Parameters:

- Skin/hair response over 8–12 weeks
- Prostate screening (men >50): Adjust PSA interpretation if systemic absorption suspected
- Hormonal: Ask women about menstrual changes or breast tenderness if using higher topical spironolactone doses

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. Jiang S, Hao Z, Qi W, Wang Z, Zhou M, Guo N. The efficacy of topical prostaglandin analogs for hair loss: A systematic review and meta-analysis. *Front Med (Lausanne)*. 2023;10:1130623. doi:10.3389/fmed.2023.1130623
3. Wang C, Du Y, Bi L, Lin X, Zhao M, Fan W. The efficacy and safety of oral and topical spironolactone in androgenetic alopecia treatment: a systematic review. *Clin, Cosmetic and Investigational Dermatology*. 2023;16:603-612. doi:10.2147/CCID.S398950