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f-OROXIDIL



Oral Minoxidil
Tablets (2.5mg)

Oral Minoxidil is not FDA approved for hair loss management, it is an off label use base on the knowledge and decision of the doctor. There are studies published on the use of oral minoxidil which allow us to derive information. You need to watch for known effects of minoxidil on other systems and proceed with caution.

Oral Minoxidil Dosage and adverse effects:

The approved dose of Oral Minoxidil for the treatment of high blood pressure is between 40-100mg per day. Whereas data from various studies for hair loss management suggests that a better response can be achieved with a dose of 1.25 - 2.5 mg per day for females and 2.5 - 5mg per day for males compared to 0.25mg, with similar rate of adverse effects. The incidence of two common adverse effects hypertrichosis and pedal oedema with 0.25 mg were 20% and 4% whereas the same with 2.5 -5mg per day were 24.3% and 4.8%. The effects are manageable with local treatment and low salt diet. The Low Dose Oral Minoxidil therapy for hair loss is often referred to as LDOM.

Adverse effects of Oral Minoxidil - 'Watch & Go'

When considering a patient for oral minoxidil therapy, watch for history of heart disease, hypertension, kidney problems, weight gain, water retention, headaches, hirsutism. A ECG should be requested in patients with history of cardiac disorder. Check blood pressure. Those laboratory test known to be abnormal at the initiation of Oral Minoxidil therapy, such as urine analysis, renal function, ECG, blood pressure, x-ray chest and any other medical condition, should be checked at regular intervals and confirmed to be within normal limits during oral minoxidil therapy.

Incidence of side effects with Oral Minoxidil for mean age 43 years & highest age 84 years		
Watch For	Incidence	Management
Hypertrichosis, darkening of body hair	15 - 24.3%	Waxing, Laser hair removal, reverses in 1-6 months on stopping the treatment
Pedal oedema	4.8%	Restrict to 2gm/day sodium diet
Hair Shedding	2.4%	Stabilised
Light headedness	1.7%	

Fluid retention, weight gain	1.3%	Restrict to 2gm/day sodium diet
Headache	0.4%	Check migraine, frequent headaches, before starting treatment
Peri orbital oedema	0.3%	
Insomnia	1.2%	
Palpitation, tachycardia	1.2%	Require medical management if frequent and affecting clinical parameters
Change in Blood pressure	Studies have reported rise in Systolic BP by 0.5mm of Hg while fall in Diastolic BP by 2.1mm of Hg	Check hypertension before starting treatment coordinate with medical management

Why Oral Minoxidil?

Efficacy of minoxidil in men and women with hair loss is well established. However some patients do not respond to minoxidil, some respond initially and show no further progress, while some are unable to continue the minoxidil. We need an option to ensure efficacy and compliance without any local effects of the scalp application.

Topical minoxidil requires to be activated:

Enzyme sulfotransferase in the outer root sheath on the hair follicle converts topical minoxidil to its active form minoxidil sulfate. Low levels of sulfotransferase lead to a poor response or no response from the use of topical minoxidil. When this happens, most of the times a stronger or higher percentage of minoxidil is tried with the hope of better results, which is frequently disappointing. In such cases oral minoxidil is effective. A study reported 40% prevalence of low levels of sulfotransferase enzyme in the outer root sheath of the hair follicles in Indian population. The oral dose of minoxidil is activated in the liver and not in the follicle. Oral minoxidil has been noted to have better compliance and assured results.

Patients do not continue topical minoxidil for various reasons:

Application of topical minoxidil causes dryness, itching,

irritation and redness of the scalp, redness on the forehead, irritation of the eyes and sinus headaches. Topical minoxidil solution is created in alcohol base. The alcohol quickly evaporates and leaves behind a deposit of minoxidil crystals on the scalp and hair. Patients feel this is dandruff formation on the scalp and stop using minoxidil. The crystals on the hair make the hair look grey, dull, frizzy, difficult to comb, difficult to style and patients stop using minoxidil. Oral minoxidil overcomes these concerns, gains confidence of the patient and restores hair growth.

Patients response can improve with adequate delivery of minoxidil:

Research studies have established a direct dose dependent response between minoxidil and hair growth. However a higher dose of minoxidil cannot be delivered topically due to the limitations of solubility and faster evaporation of alcohol. Oral minoxidil presents the best option to deliver a better dose; as well as bypass the uncertainty of inadequate sulfotransferase enzyme activation by activation in the liver.

A review and meta analysis of various studies with oral minoxidil in androgenetic alopecia reported 80-90% improvement in men (J Jimenez-Cauhe et.al. 2019, 2020, Sharma et.al. 2020) (1,7,8) and 70-80% improvement in women (Rodrigues-Barata R et.al. 2020, Sharma et.al. 2020) (8,11). It was also reported that results with monotherapy were as good as combination therapy with other agents.

Indications for Oral Minoxidil reported in various studies

- Androgenetic Alopecia
- MPHL
- FPHL
- Trichodynia
- Telogen Effluvium
- Chronic Telogen Effluvium
- Alopecia Areata
- Ophiasis
- Loose Anagen Syndrome
- Short Anagen Syndrome
- Lichen planopilaris
- Early Scarring Alopecias
- Monilethrix & weak hair shafts
- Chemotherapy induced Alopecia
- Thyroid hair loss



- PCOS without Hirsutism
- Stress induced hair loss
- Hypotrichosis - thinning of eyebrows

Contraindications for Oral Minoxidil

- Heart disease
- Hypertension
- Kidney Disease
- Liver disease
- Hirsutism
- Migraine
- Tendency to put on weight
- Allergic to Minoxidil
- Pregnancy
- Breast feeding



Five C's benefits of Oral Minoxidil proposed by Beach (2018):

- ☑ Convenience
- ☑ Cosmesis
- ☑ Cost Saving
- ☑ Co-therapy
- ☑ Compliance

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