

Male Pattern Baldness: A Man's Guide

Introduction

Male pattern baldness (MPB), or androgenetic alopecia, affects a significant portion of men by mid-life, with approximately 50% experiencing some form of it by age 50 (McMichael, 2019). MPB primarily results from a genetic sensitivity to dihydrotestosterone (DHT), a derivative of testosterone that affects hair follicle miniaturisation, eventually leading to thinning and hair loss. Beyond genetics, lifestyle, dietary, and natural intervention strategies offer promising avenues for managing MPB's progression.

Causes and Mechanism

DHT plays a central role in MPB, binding to androgen receptors in hair follicles and causing follicle shrinkage. Over time, this process leads to shorter, finer hair until the follicle ceases to produce visible hair. Genetic predisposition, particularly related to the AR gene on the X chromosome, influences the sensitivity of hair follicles to DHT (Hillmann and Blume-Peytavi, 2017). Environmental factors, dietary habits, and inflammation also contribute to DHT's activity and the overall hair health.

Lifestyle and Dietary Factors in Reducing DHT and Supporting Hair Health

Several lifestyle and dietary adjustments can help manage DHT levels and promote a scalp environment conducive to hair growth:

1. Low-Glycemic Diet

High-glycemic foods (e.g., refined sugars and simple carbs) increase blood sugar and insulin levels, potentially boosting androgen and DHT production (Prie et al., 2017). Maintaining stable blood sugar levels by focusing on complex carbohydrates (whole grains, vegetables) helps manage insulin levels and can reduce the androgen-related impact on hair loss.

2. Anti-Inflammatory Foods

Chronic inflammation contributes to hair follicle damage, and a diet rich in anti-inflammatory foods may help counteract this effect. Omega-3 fatty acids, particularly from sources like fatty fish, chia seeds, and flaxseeds, reduce inflammation and support scalp health (Kruse, 2018). Incorporating antioxidant-rich foods such as berries, leafy greens, and nuts also helps combat oxidative stress on hair follicles.

3. Green Tea and EGCG

Green tea contains epigallocatechin gallate (EGCG), a potent antioxidant that has shown the ability to inhibit 5-alpha reductase, the enzyme that converts testosterone to DHT (Kwon et al., 2007). Regular green tea consumption or EGCG supplements may aid in reducing DHT activity.

4. Nutrient-Rich Diet

Essential nutrients like vitamins A, C, D, and E, along with biotin, zinc, and iron, are fundamental for hair health (Rogers et al., 2018). Deficiencies in these nutrients can weaken hair, making it more

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susceptible to DHT's effects. A diet focusing on whole foods—such as lean meats, nuts, seeds, fruits, and vegetables—provides these essential nutrients to support hair growth.

5. Avoiding Environmental Toxins

Exposure to environmental toxins, including pollution and cigarette smoke, can accelerate hair loss by increasing oxidative stress on the scalp and weakening hair follicles (Kruse, 2018). Reducing exposure to these toxins may help slow MPB progression.

6. Stress Management

Stress raises cortisol levels, which can influence hormonal balance, including DHT production. Practices such as mindfulness, yoga, and regular exercise are effective ways to manage stress, ultimately benefiting hair health by reducing cortisol's impact on hair follicles (Schmidt et al., 2018).

Research-Backed Natural Supplements and Strategies to Reduce DHT

Several natural supplements have demonstrated effectiveness in targeting DHT reduction or enhancing scalp health to promote hair growth:

Saw Palmetto

Saw palmetto is one of the most well-researched herbal supplements for hair loss due to its ability to inhibit 5-alpha reductase (Murugusundram, 2009). This inhibition reduces DHT production, slowing hair follicle miniaturisation and potentially reducing hair shedding.

Saw Palmetto Extract

Pumpkin Seed Oil

Rich in phytosterols, pumpkin seed oil has been shown to reduce 5-alpha reductase activity, thereby lowering DHT levels (Cho et al., 2014). Studies report a significant increase in hair density and thickness in those using pumpkin seed oil supplements, supporting its role as a natural DHT reducer. Pumpkin Seed Oil

Biotin

While biotin does not reduce DHT, it is essential for keratin production, strengthening hair and reducing breakage (Rogers et al., 2018). Supplementation may help improve hair resilience, especially in individuals who are biotin-deficient.

Biotin 500ug

Zinc

Zinc acts as a cofactor in hormone regulation and is involved in the production of enzymes that modulate DHT activity. Supplementing with zinc has been shown to inhibit 5-alpha reductase, thereby reducing DHT levels (Prasad, 2019). Zinc also plays a critical role in immune health, which supports the scalp's ability to resist inflammatory damage.

Zinc

Pygeum Bark Extract

Derived from the African cherry tree, Pygeum bark is thought to reduce DHT levels by inhibiting 5-alpha reductase and possibly lowering DHT activity (Gupta et al., 2019). It's often used alongside other DHT inhibitors, like saw palmetto, for a synergistic effect.

<u>Ultra Prostate Formula</u> (Pygeum Bark Extract is contained within this formula)

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Nettle Root

Nettle root, a common ingredient in herbal medicine, also exhibits DHT-blocking properties. Its compounds inhibit 5-alpha reductase, preventing DHT conversion and reducing its impact on hair follicles (Borumand and Sibilla, 2014). Saw Palmetto & Stinging Nettle Complex (Contains Stinging Nettle which also has DHT-blocking properties)

Curcumin

Known for its anti-inflammatory effects, curcumin (the active compound in turmeric) may support scalp health and indirectly benefit hair growth. Research indicates that curcumin also has the potential to inhibit 5-alpha reductase (Shoba et al., 1998). <u>Curcumin 500 with Bioperine</u>

Reishi Mushroom

This mushroom has been shown to suppress DHT levels and is used in traditional Chinese medicine for a range of health benefits, including hair support. Reishi mushrooms may reduce hair loss by balancing hormones and reducing DHT (Friedman et al., 2008). <u>Mico-Rei (Reishi Mushroom)</u>

Additional Interventions for MPB

- Minoxidil (Rogaine): This topical FDA-approved treatment increases blood flow to the scalp, promoting follicle health and extending the anagen phase of hair growth (Olsen, 2020).
- Platelet-Rich Plasma (PRP) Therapy: PRP involves concentrating platelets from a person's blood and
 injecting them into the scalp to stimulate growth factors. Studies have shown PRP can improve hair
 density and thickness (Gupta et al., 2019).
- Low-Level Laser Therapy (LLLT): Devices such as laser combs and helmets use red light to stimulate hair follicles, increasing hair density and thickness over time (Jimenez et al., 2017).

Conclusion

While male pattern baldness is largely influenced by genetics and hormones, a range of lifestyle, dietary, and natural strategies offer potential benefits for reducing DHT levels, supporting scalp health, and promoting hair growth. Each approach targets various aspects of hair health, from hormonal balance to nutrient intake and inflammation control.

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