

# Physician Prescriber Information and References

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## BioMed Formula H5<sup>®</sup> topical solution contains the following active ingredients

- **Finasteride (Propecia)** - The American Hair Loss Association notes finasteride is a prescription oral treatment for male pattern baldness. It reportedly reduces the active levels of dihydrotestosterone (DHT) in the body, therefore, preventing the miniaturization of hair follicles. Many men who are prescribed finasteride to be taken orally experience significant side effects which may reduce quality of life. These side effect may include loss of libido, erectile dysfunction, hypogonadism and gynecomastia.

- **Minoxidil** - A topical treatment that has been used since the 1990's to treat baldness in men and women. It reportedly promotes new hair growth by increasing cutaneous blood flow to shrinking hair follicles. This may cause follicles in the telogen phase to shed, which are then replaced by thicker hairs in a new anagen phase.

Other medications can be effective in the treatment of alopecia when applied directly to the scalp. BioMed Specialty Pharmacy offers compounded formulas that combine FDA approved medications and alternative therapies creating a custom product that may treat, prevent and reverse hair thinning and loss due to Androgenic Alopecia (AGA).

- **Minoxidil fortified with finasteride** - Finasteride acts by reducing DHT, thereby inhibiting miniaturization of hair follicles in patients with Androgenic Alopecia (AGA). Scalp-applied topical finasteride with minoxidil can be considered for hair density improvement in combination with or without oral finasteride.

- **Azelaic Acid** - A naturally occurring substance found in whole grains that contains a mild antibiotic designed to reduce harmful bacteria from the skin. It is also said to be a potential inhibitor of 5-alpha-reductase in human skin. A reduction of this enzyme reduces the amount of DHT in the body and, therefore, can have a similar effect to finasteride; the active ingredient in the FDA approved oral hair loss medication finasteride.

- **Ketoconazole** - Ketoconazole, an anti-fungal medication, can also be effective in stimulating new hair growth for sufferers of Androgenic Alopecia (AGA). DHT is the hormone responsible for shrinking hair follicles in people who have this condition. In addition to killing fungi, ketoconazole is also helpful in countering the effects of DHT.

## Causes of hair loss

Male and Female Pattern Baldness, also known as "Androgenic Alopecia", is the most common cause of hair loss and will affect up to 70% of men and 40% of women at some point in their lifetime.

There are many causes of hair loss. Causes include certain diseases, chemical exposure or drug use. The most common causes are:

- **Androgenic Alopecia (AGA)** - More than 95% of hair-loss in men is due to this condition. Women can also be affected by this common type of hair loss.

- **Poor Nutrition** - Usually complete baldness is seen in people with nutritional deficiencies. These include deficiencies of biotin, amino-acids (protein), zinc and iron. Consuming a diet high in animal fat, such as fast food, can also have a negative effect on hair loss.

- **Stress** - Stress has been shown to restrict the blood supply to capillaries which prevents oxygen and nutrients from reaching the hair follicle which can prevent hair growth. This effect is similar to having poor circulation.

- **Medications** - Some medications can cause hair loss, especially medications which affect hormone levels. These medications include contraceptive pills, some forms of hormone replacement therapy, anabolic steroids and acne medication.

### References (visit website for full list):

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2. Dinh, Quan Q, and Rodney Sinclair. "Female Pattern Hair Loss: Current Treatment Concepts." *Clinical Interventions in Aging* 2.2 (2007): 189-199. Print.
3. Ramos, Paulo Müller, and Hélio Amante Miot. "Female Pattern Hair Loss: A Clinical and Pathophysiological Review." *Anais Brasileiros de Dermatologia* 90.4 (2015): 529-543. PMC. Web. 3 Oct. 2017.
4. Lee, Won-Soo, and Hae-Jin Lee. "Characteristics of Androgenetic Alopecia in Asian." *Annals of Dermatology* 24.3 (2012): 243-252. PMC. Web. 3 Oct. 2017.
5. Whiting, David. (2001). Possible mechanisms of miniaturization during androgenetic alopecia or pattern hair loss. *Journal of the American Academy of Dermatology.* 45. S81-6. 10.1067/mjd.2001.117428.