

## Male Pattern Baldness (by Scott Ryals C.A.S)

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### Allopathic Perspective on Androgenetic Alopecia

#### Hair Structure

Hair is composed of strong structural protein called keratin. This is the same kind of protein that makes up the nails and the outer layer of skin.

Each strand of hair consists of three layers.

1. An innermost layer or medulla, which is only present in large thick hairs.
2. The middle layer known as the cortex. The cortex provides strength and both the color and the texture of hair.
3. The outermost layer is known as the cuticle. The cuticle is thin and colorless and serves as a protector of the cortex.

#### Structure of the hair root

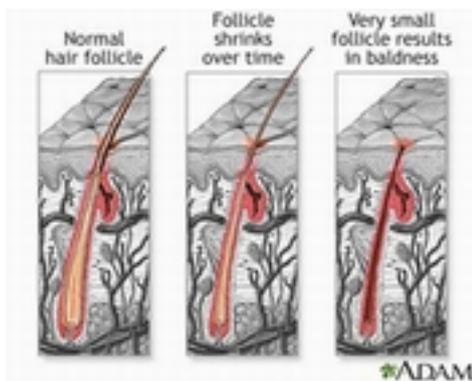
Below the surface of the skin is the hair root, which is enclosed within a hair follicle. At the base of

the hair follicle is the dermal papilla. The dermal papilla is fed by the bloodstream which carries nourishment to produce new hair. The dermal papilla is a structure very important to hair growth because it contains receptors for male hormones and androgens. Androgens regulate hair growth and in scalp hair androgens may cause the hair follicle to get progressively smaller and the hairs to become finer in individuals who are genetically predisposed to this type of hair loss. [1]

### What Causes Androgenetic Alopecia?

“ The hair follicle is a structure that encases the lower part of the hair shaft. Each follicle contains blood vessels that nurture new hair growth. All of our hair follicles are present at birth, and throughout our lifetime each follicle grows and sheds single hairs in a repetitive cycle. The growth phase for a single new hair lasts two to three years. At the end of this time, growth ceases and the follicle enters a resting phase. After three to four months in the resting phase, the hair is shed and the next growth cycle begins. On a normal scalp, approximately 80 to 90 percent of follicles are growing at any time. And each day, about 75 follicles shed their hair and the same number enter a new growth phase.

Men and women experience Androgenetic Alopecia with equal frequency, although it may be camouflaged better in women. People who experience this type of hair loss have some hair follicles with a shorter than normal growth phase and produce hair shafts that are abnormally short and thin. These follicles are said to be "miniaturized." They develop because of hormonal changes that occur in the hair follicle itself, although men with male pattern balding also may have higher levels of dihydrotestosterone (a byproduct of testosterone) in the blood.



### What areas of the scalp are most affected?

In men, Androgenetic Alopecia is characterized by gradual hair thinning that most often affects the crown and frontal areas of the scalp. In many men, the hairline around the temples regresses. As it moves back to the mid-scalp, an M-shaped hair pattern develops. The hair in areas affected by hair loss may be of various lengths and thickness, and the presence of uneven lengths and texture is a classic sign of male pattern balding. Women may have similar patterns of hair loss, although typically the hair loss is a little more diffuse than in men, and women rarely experience loss of all their hair.” [2]

### How is male pattern balding diagnosed?

“Androgenetic Alopecia can usually be readily diagnosed in men based on visual inspection of the scalp. A family history of similar hair loss also is suggestive of Androgenetic Alopecia.

The diagnosis of Androgenetic Alopecia in women is similarly based on the history and visual inspection of the scalp. The scalp should be inspected carefully, however, for signs of hair disease such as scarring or follicular plugging. In addition, other causes of hair loss should be considered, including certain illnesses (such as hyperthyroidism, hypothyroidism, or iron deficiency) or medication side effects (such as anticoagulants, anticonvulsants, beta blockers, and antidepressants).

Women may rarely experience hair loss due to an excess of male hormones (androgens). Typically these women have other signs of androgen excess, such as menstrual irregularities, acne, and excess hair growth in other areas. However, given the frequency with which Androgenetic Alopecia

occurs in women, no extensive testing is necessary unless one of these other signs of androgen excess is present.

### Can male pattern balding be treated?

Two medications, Minoxidil and Finasteride, are available to treat male pattern balding in men; only Minoxidil is used in women. A medication called Spironolactone is also sometimes used in women. Surgical options may also be considered in some cases." [\[3\]](#)

### Minoxidil (Rogaine)

"Minoxidil promotes hair growth by lengthening the growth phase of hair follicles and causing more follicles to produce hair. The hairs that are produced tend to be larger and thicker. Minoxidil is a liquid preparation that is applied directly to the scalp. It is available in both 2 and 5 percent solutions, although the 5 percent solution has been shown to be more effective in men and is probably also more effective in women. It can be purchased over-the-counter without a prescription

### Administration

Minoxidil is a scalp treatment, not a hair treatment. One milliliter of the solution should be applied twice a day to the affected areas of the scalp using a dropper or pump spray device. The solution should be lightly spread over the affected area with a finger, and does not need to be massaged into the scalp. People using Minoxidil must have a normal, healthy scalp since cuts or openings can allow the solution to be absorbed into the bloodstream.

### Results

Minoxidil must be used twice a day for at least four months before the initial response to treatment can be gauged. When it is effective, people usually begin to shed less hair within two months after the start of treatment, and by four to eight months hair begins to grow. The effects of Minoxidil usually stabilize after 12 to 18 months of use.

Treatment must be continued indefinitely. If Minoxidil is discontinued, any hair that has been maintained or re-grown as a result of the medication will be lost." [\[4\]](#)

"Not all people benefit from Minoxidil. Best results are obtained when baldness has been present for less than 5 years, when it affects the crown of the head (the vertex), and when it is less than 10 centimeters in diameter. Studies have shown that up to one-half of men and women with vertex hair loss experience cosmetically significant results with Minoxidil.

### Side effects

Minoxidil causes few side effects. Occasionally, the skin may become irritated. Systemic side effects are possible if Minoxidil is absorbed through cracks or cuts in the scalp. Patients with a history of heart disease, in particular, should watch for systemic side effects such as an increased heart rate, edema or swelling (for example in the hands or feet), or weight gain. Women treated with 5 percent Minoxidil may occasionally develop increased facial hair.

### Finasteride

Finasteride decreases dihydrotestosterone levels, resulting in an increased amount of hair covering more of the scalp. It cannot be used in women of reproductive age because of concerns regarding abnormal genitalia development in male fetuses. One study that evaluated the use of Finasteride in postmenopausal women with Androgenetic Alopecia found that finasteride did not improve hair loss. Thus, Finasteride is not currently recommended for women at any age.

Finasteride is taken orally in men at a dose of 1 milligram (mg) per day. Higher doses of Finasteride (such as those used to treat some prostate conditions) can cause side effects including sexual dysfunction and decreased sex drive. However, such side effects are rarely seen with the 1 mg dose used to treat hair loss." [\[5\]](#)

“A small study suggested that Finasteride worked better than 2 percent Minoxidil and there may also have been a benefit with combination therapy. Studies comparing Finasteride and 5 percent Minoxidil have not been performed. However, clinical observations suggest that Finasteride is easier to use. Because of this, men may be more apt to take it consistently and it may yield better outcomes.

### **Spironolactone**

Spironolactone blocks the action of the hormone Aldosterone. Women with Androgenetic Alopecia who do not respond to Minoxidil may benefit from the addition of Spironolactone. A typical dose would be 100 to 200 mg per day.

### **Surgery**

For some patients, surgery may be a preferred form of treatment. Surgical options include hair transplantation, in which healthy follicles from other parts of the scalp are transplanted to areas affected by baldness. Scalp reduction is another procedure sometimes performed. In scalp reduction, bald patches of the scalp are removed and the remaining skin is sutured together.” [\[6\]](#)

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Retin-A / Tretinoin

” Retin was originally used in the treatment of acne and other skin disorders. However studies have shown that Retin-A alone or in combination with Minoxidil can result in moderate to good hair growth in individuals with Androgenetic Alopecia and Alopecia Areata. Many dermatologist recommend using Tretinoin in combination with Minoxidil to increase the effects of both these products. Side effects of Retin-A include blistering, altered pigmentation and increased sensitivity to light. If a gel is used it is suggested that Minoxidil be applied in the morning and Retin-A gel in the evening to reduce the problems caused by sunlight.

### **Zinc**

Some vitamins have been shown to inhibit the activity of 5-alpha reductase and the subsequent production of (DHT) dihydrotestosterone. These vitamins therefore may be of great benefit in the treatment of Androgenetic Alopecia or pattern baldness. There have been studies in which Zinc is shown to inhibit 5 alpha reductase activity and it has therefore been concluded that Zinc is beneficial in disease and disorders related to an excess in dihydrotestosterone (DHT). There have also been studies which have shown that vitamin B6, Zinc and Azelaic Acid combined together even at very low concentrations produced a 90% inhibition of 5 alpha reductase activity.

### **Skinoren / Azelaic Acid**

Azelaic Acid like Retin-A is more commonly used in the treatment of acne and other skin conditions. Recently the potential effect of using Azelaic Acid in the treatment of Androgenetic Alopecia has been looked at and discussed.” [\[7\]](#)

“Studies carried out in France in the late 80's were to assess the effects of Zinc Sulphate, a Azelaic Acid on the human skin. The result of these studies demonstrated that at high concentrations Zinc could completely inhibit the activity of 5 alpha reductase. Azelaic Acid was also shown to be a potent inhibitor of 5 alpha reductase. Inhibition was detectable at concentrations as low as 0.2mmol/l and was complete at 3mmol/l. When Zinc, Vitamin B6 and Azelaic Acid were added together at very low concentrations which had been ineffective alone, 90% inhibition of 5 alpha reductase was achieved.

### Saw Palmetto Extract

Studies have shown that Saw Palmetto is an effective anti-androgen. It acts in a similar way that Propecia does. Firstly it lowers levels of DHT in the body by blocking 5 alpha-reductase. Secondly Saw Palmetto block receptor sites on cell membranes required for cells to absorb DHT. Although no studies have been carried out on Saw Palmetto and its relation to hair growth. Studies have been performed on the use of Saw palmetto in the treatment of benign prostatic disease, which similar to Androgenetic Alopecia, also depends on the production of dihydrotestosterone. All of the studies that have been performed to date show that Saw Palmetto is an effective anti-androgen and has shown conclusively to be effective in the treatment of benign prostatic disease.

One may assume from this that since Saw Palmetto is an effective anti-androgen and is used in the treatment of prostatic disease then it may also be effective in the treatment of Androgenetic Alopecia." [\[8\]](#)

### Ayurvedic Approach to Alopecia

#### Pathogenesis Of baldness and Premature Graying of Hair

"The tejas (heat) of the body in association with vayu and other dosas, scorches up the hair-root (scalp) giving instantaneous rise to Alopecia in men." [\[9\]](#)

#### Line of treatment

"In Khalitya (Alopecia), the patient should, in the beginning, be given elimination therapies (emetis, purgation, etc.), and thereafter, be given nasya (inhalation therapy with medicated oil, and application of paste of drugs over the head." [\[10\]](#)

#### Recipe of medicated oil, etc.

"Medicated oil should be prepared by cooking with vidari-gandha (sala-parni), prsni-parni, brhati, kantari and gokshura, or with Jivaniya group of drugs, viz., jivaka, rsabhaka, meda, maha-meda, kakoli, mudga-parni and masa-parni.

Inhalation therapy with these medicated oils or with Anu-taila cures Alopecia and graying of the hair" [\[11\]](#)

#### Recipe for Restoration of Hair

Application of three paste of tila, amalaki, kiñjalaka, madhuka and honey over the head restores the colour of the hair, and promotes hair growth." [\[12\]](#)

#### Herbs recommended for treatment In Caraka





**Amalaki**  
**Terminalia Chebula**

**Brhati, Solanum Indicum**



**Kantari,**  
**Solanum Xanthocarpum**



*Madhuca esculenta (Lamut sida)*

**Madhuca Esculenta,**  
**Madhuka**



**Gokshura,**  
**Tribulus Terrestris**



**Vidari-Gandha,**  
**Pueraria Tuberosa**



**Karanj kiñjalaka,**  
**Pongamia Glabra**



**Prsni-Parni,**  
**Desmodium Gangeticum**



**Bhringaraj,**  
**Eclipta Alba**

### **Current Ayurvedic Treatment**

“In Ayurveda<sup>[1]</sup>, hair is considered to be a byproduct of bone formation. The tissues responsible for building bones are also responsible for the growth of hair. Ayurveda doctors believe that early hair loss is related to body type and the balance of the

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mind-body constitution<sup>i [2]</sup> (doshas) and those who have excess pitta in their system, are likely to lose their hair early in life, or have prematurely thin or gray hair.

Excess pitta in the sebaceous gland, at the root of the hair, or folliculitis can make the person start losing hair. Hair loss is treated in Ayurveda with a combination of diet, herbs, oil massage, meditation, aromatherapy, breathing and yoga.

To reduce pitta and preserve the health of hair, drink 1/3 cup aloe vera juice. Alternately, you can take 1 tablespoon aloe vera gel with a pinch of cumin 3 times a day for about 3 months.

Baldness is treated by bleeding from the forehead after treatment with oils and sweating, followed by lotions and pastes of manahsila, kuttannata, devadaru, gunja, malati, karavira, citraka, naktamala, blue and green vitriol, and black pepper.

### Ayurvedic Oil Massage

To pacify pitta, rub some coconut oil on your scalp and on the soles of your feet at bedtime. Massage your scalp with Brahmi oil or Bhringaraj oil at bedtime to help prevent hair loss. Massage the hair with vitamin E oil. This also may prevent or slow down the hair loss." [13]

### Ayurvedic Diet for Hair

"Eat a handful of white sesame seeds every morning. One handful of these small seeds contains about 1,200 mg. of calcium and magnesium. Take some yogurt everyday (unless you are allergic to milk).

### Ayurvedic Herbs For hair loss

Use the following herbal combination:

Dashmula 5 parts Bhringaraj 4 parts Jatamamsi 3 parts Add 1/2 teaspoon of this mixture to 1 cup of goat's milk. Heat to boiling, and drink at bedtime." [14]

### Conclusion

The process of doing this research has been very enlightening and has presented some surprises for me. To understand that "hair Loss" is actually a misnomer, since the hair follicle actually goes dormant and has the ability to be reactivated with proper diet, lifestyle and herbal treatment. It also is very clear that the herbs recommended for treating an enlarged prostate and the herbs recommended for treating Androgenetic Alopecia are often exactly the same.

As one who has Androgenetic Alopecia, I have started some of the treatments suggested, out of curiosity and a belief that it is possible to regenerate cells (far more often than I was lead to believe). Time and my ability to adhere to a consistent therapeutic regimen will determine my success.

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