

# FOLLICLES, FACTS, FIGURES AND FRAUDS

Today's trendy hair loss products aren't all they claim to be.

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**HAIR IS AN INTEGRAL PART** of the human psyche. It's a visual statement to the world about our individuality, social status, health and viability.

Hair loss is a visual statement as well, one that sends a negative message of ill health or old age. In our youth-oriented society, this isn't desirable. Perhaps this is why people spend an astounding \$7 billion every year on hair loss remedies in North America alone.<sup>1</sup>

## An Aging Population

From 1946 to 1964, the worldwide population exploded. Better known as the baby boomer generation, this group is now 43 to 61 years of age and comprises approximately one-third of the U.S. population.<sup>2</sup> Baby boomers virtually control the economy. They can afford cosmetic solutions and believe they're essential.<sup>3</sup> In fact, five out of six consumers say personal appearance is key to professional success, according to a 2006 published report by the American Academy of Cosmetic Surgery.

This factor, coupled with pressures to look young and remain vital in the work force, has led to a significant increase in the number of hair loss products.

Nearly one-third of the U.S. population has some hair loss. Of these 80 million men and women, only an estimated 3 percent seek some form of solution: medical, surgical or nonmedical.<sup>4</sup> Nevertheless, this is still a significant portion of the population. Fifty percent of the male population has cosmetically significant hair loss by age 50.<sup>5</sup> And 40 percent of women have visible hair loss by age 40.<sup>6</sup>

Given these statistics, your patients will invariably ask you about hair loss products. This article can help you evaluate the options that address their needs.

## A Brief History

The desire to restore or retain one's hair isn't new. In fact, hair loss "remedies" had their roots in ancient Egypt circa 4000 B.C.

The modern era of hair loss treatments began 18 years ago with two major waves of products. The first influx occurred in 1989 as a direct result of the FDA's approval of minoxidil (Rogaine) as a prescription drug. That same year, the FDA concluded a review of more than 300,000 over-the-counter hair "re-growth" products and banned them all.

Public awareness continued to grow in the 1990s with the 1996 introduction of 5 percent Rogaine for men and the reclassification of minoxidil as an over-the-counter remedy. In 1997, Propecia was introduced.

The second wave began in 2000; this is attributable to the expiration of Rogaine's patent. Since then, a host of minoxidil-based products has flooded the market. This generation of Internet-based, over-the-counter products is best known by its marketing. Buzz words, such as "natural,"

"safe," "effective," "herbal" and "nutrients" have an appealing ring, but the products are rarely what they claim.

Many contain minoxidil, saw palmetto (unproven herbal remedy) and/or other ingredients that claim to be dihydrotestosterone (DHT) inhibitors, which prevent the conversion of testosterone to DHT. (DHT is a primary cause of male pattern hair loss.) Others claim to "unblock" pores on the scalp, eliminate hair mites and make the hair look thicker in a mere 48 hours.

Distributing these potentially bogus products is widespread and easy. Consumers can get them from salons/drug stores, or most prevalently, a horde of Internet sites that assure anonymity. Unfortunately, the FTC has been slow to regulate these sites. Compounding the problem is that new sites emerge as fast as one is closed down, none of which helps inhibit the proliferation of these unproven products.

## The Real Deal

Let's first take a look at what works. To date, only three treatments are medically proven to treat hair loss.

**Minoxidil.** This is the first drug approved for hair loss. Introduced in 1988, it's effective for men and women. The topical formulation is available in 2 percent (women) and 5 percent (men), with a newly introduced foam (5 percent) version. Originally a prescription, Minoxidil (Rogaine) became available over the counter in 1996. The mechanism of action is a hair growth stimulator that works by activating potassium channels in follicular cells. As a result, vascular endothelial growth factor (VEGF) and prostaglandin synthase expression are potentiated. This results in keeping hairs in the anagen (growth cycle) for a longer duration. Numerous clinical trials have been conducted, yielding endpoints for hair growth and hair maintenance. Minoxidil helps retain existing hair and must be used daily. If it's discontinued, hair loss resumes.

**Finasteride.** This medication received FDA approval for hair loss in 1997. It's a 5 alpha-reductase inhibitor that lowers DHT levels, resulting in hair maintenance and possible hair growth. This is the only DHT-inhibitor that's FDA-approved for hair loss. In clinical trials, 90 percent of the participants either gained or maintained their hair for more than five years vs. placebo.<sup>7</sup>

**Hair restoration.** This is the only true permanent solution for hair loss. A surgical treatment, the procedure transplants viable hair from the donor area to the recipient locations. When the procedure is performed well, results look natural.

## The Trendy Products

Having discussed medically proven treatments, I want to look at the plethora of products that may not be all they claim.

**Avacor.** From Global Vision, Avacor is a system based on three products: DHT blocker, topical solution and scalp detoxifying shampoo. It's mass marketed in the media and Internet and claims to be an all-natural, herbal formulation that's immediately effective, with results shown in four to six months.

Its hair growth stimulator is based on a formulation of 2, 4 di-amino 6d piperidino-pyrimidine 3 oxide—better known as minoxidil 2 percent. Sabal serulate, commonly known as saw palmetto, is an androgen modulator. While the company used clinical data to support its claims, the data comes from a nonpeer-reviewed, non-double-blinded, seemingly scientific study subsidized by the makers of the product. This product may be beneficial because minoxidil is an ingredient, but it's low strength. No medically reviewed studies validate that any of the other ingredients, such as saw palmetto, can ease hair loss.

**Nioxin.** This is a scalp therapy cleanser and serum that contains niocidin, which is claimed to inhibit demodex-produced lipase. This product suggests that it works by eliminating hair mites (demodex). No studies have ever shown any benefit for hair loss by getting rid of mites or their lipase. "Bio-nutrient" actives cleanse the scalp of DHT and provide nourishment.

**Saw Palmetto.** This over-the-counter herb is beneficial for men with benign prostatic hyperplasia, but does not affect testosterone, DHT or PSA levels. In vitro, it has demonstrated alpha androgenic receptor blocking activity. For hair loss, 400 mg of the extract with 100 mg of beta sitosterol daily is recommended to produce results in five months. However, no studies indicate that saw palmetto facilitates hair growth or cessation of hair loss.

**Procede.** This product claims to provide the "appearance" of thicker hair in

48 hours. To be effective, the treatment must be repeated every 90 days, according to the company's Web site. The product also claims to increase the hair shaft diameter and free the pathway for hair that's trying to grow. The ingredients include alcohol plus cetyl and ethyl alcohol, sodiul laurel sulfide, methyl/propyl paraben and lactic/citric/protonic/salicylic acids. Once again, no studies confirm product efficacy.

### Minoxidil-Based Products

**Scalp-Med.** This product contains Vitadil 5A (men) and Vitadil 2A (women), the equivalent of 5 percent and 2 percent minoxidil. The system consists of a follicle detoxifying scalp cleaner and sodium laureth sulfate-free shampoo. This is a minoxidil-based product and, therefore, can offer some benefit. However, there's no reason to believe it's more effective than buying minoxidil at Walmart or Costco for a fraction of the cost.

### Herbal/Botanical Products

**Corvinex.** This product claims to inhibit DHT and block androgen receptors. It's also purported to activate follicle growth and improve scalp and hair quality. This four-product system includes shampoo, conditioner, follicle spray and vitamins. The "active" ingredients include saw palmetto, gotukola, ginseng, muira puma, pumpkin seed, paba, choline bitartrate, 18 amino acids (4 mg each) and magnesium. No studies confirm efficacy for this product.

**Procerin.** Ingested twice daily, the capsules offer a blend of herbs, minerals and vitamins, with "active" ingredients containing saw palmetto, zinc sulfate and vitamin B6. Again, no studies confirm efficacy.

**Provillus.** This oral supplement claims to be a DHT blocker. It contains the "active" ingredients of saw palmetto, vitamin B6, biotin, magnesium, zinc, nettle root, pumpkin, eleuthero (ginseng), uva ursi and muria puama. No studies

confirm product efficacy.

**Nisim Bio Factors.** The product recommends a two-step treatment of shampoo and growth stimulant extract. It claims a success rate of 89 percent by correcting imbalances that lead to hair loss. The ingredients include saw palmetto, horsetail, herbal extract, blessed thistle, chamomile, rosemary, panthenol, inositol, cysteine, methionine and biotin. As with the other products in this herbal/botanical category, no studies confirm product efficacy.

### Vitamin/Mineral Products

**Advicia.** This product claims to be a 5 alpha-reductase inhibitor, with ingredients containing L-lysine, L-arginine, beta-sisterol, epigallocatechin, epicatechin, proanthocyanidin and grape seed extract. Again, no studies confirm product efficacy.

**Alphactif.** From Alpharegul, France, this dietary supplement claims to bind to the cell structure of the follicle and should be taken twice daily. The company's Web site discusses two European-based studies, which presumably are sponsored by the company. However, these studies haven't been published in any medical journals. According to the company's research however, 89 percent of participants in their studies saw an increase in anagen hairs in the occipital area after 90 days. The supplement contains vitamins E and B6, zinc, stinging nettle extract, pumpkin seed oil, borage seed oil, soybean, lecithin and an unspecified proprietary blend.

### Other Choices

**Kevis.** The product regimen includes a topical lotion, shampoo and topical "accelerator," which is applicator-applied and massaged into the scalp. This over-the-counter product claims to work by blocking DHT or the androgen receptor. The company claims to have European studies. But there's little information about the ingredients to assess potential benefit.

**Nizoral.** This prescription shampoo contains ketoconazole 2 percent (an anti-fungal), which is purported to lower serum testosterone. The effect has been compared to that of minoxidil 2 percent. The shampoo is available in a 1 percent form over the counter or in 2 percent form as a prescription. This product may offer some benefit.

**Spectral DNC.** This product contains Aminexpil SP94, retinol, nanosomes, copper complex, vitamin complex and herbal extracts. Consumers apply a topical spray to thinning areas twice daily to the crown and hairline. No medical studies show this to be efficacious. However, some of the ingredients may offer limited benefit for hair loss.

**Spirolactone.** A potassium-sparing diuretic, this product is used in treating blood pressure and has anti-androgen activity. It's a DHT blocker in topical form and must be applied daily, followed by an application of minoxidil. It's available in table or foam by prescription. This product may be potentially efficacious due to the medically proven anti-androgen activity, with or without minoxidil.

As physicians, we need to view these products with a certain amount of skepticism. Many of these purportedly "natural" products contain minoxidil, which is a clinically proven hair loss remedy. Additionally, many companies don't provide sufficient information on their formulae, so it's difficult to know what they're using.

Some companies disguise their ingredients with terminology not usually recognized by the public. Many product claim they have a DHT blocker, but it's not identified. Several products refer to clinical trials, but do not provide relevant data to support their claims. Often, there's no satisfactory mechanism of action provided for the product.

Nevertheless, many of our patients will try these products, often in vain. Therefore, we play a crucial role in educating them. Hair transplantation, Rogaine and Propecia are the only clinically proven medical hair loss treatments. Until a new drug is found, cloning perfected or genetic therapy refined, they remain the best solutions for people with hair loss. ❧

For a list of references, go to [advanceweb.com](http://advanceweb.com) healthyaging and click on the references toolbar.

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Disclosure: Dr. Leavitt indicates that he has no affiliations with any commercial entities, directly or indirectly referenced in this article.