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**FILE: ■ Hair Loss
■ Alopecia**

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Re: Practitioner's Guide to Hair Loss

Janowiak JJ, Ham C. A practitioner's guide to hair loss. Part 1—History, biology, genetics, prevention, conventional treatments and herbals. *Alternative & Complementary Therapies*. June 2004;10(3):135-143.

Janowiak JJ, Ham C. A practitioner's guide to hair loss. Part 2—Diet, supplements, vitamins, minerals, aromatherapy, and psychosocial aspects. *Alternative & Complementary Therapies*. August 2004;10(4):200-205.

To treat hair loss, men and women spend an estimated \$1.2 billion annually on remedies ranging from vitamins to special tonics and shampoos. Hair loss (alopecia) can be caused by hereditary factors, disease, or scalp disorders. In part 1 of this two-part series, the authors discuss hair loss in history, essential details on hair physiology, reasons for hair loss, conventional and natural treatments for hair loss, and strategies to induce hair growth. Included is a sidebar listing specific hair maintenance products (supplements, hair tonics and styling serums, and shampoos and conditioners). In part 2, they discuss additional alternative and complementary approaches to hair loss, such as diet, supplements, vitamins, minerals, and aromatherapy, as well as the psychosocial aspects of hair loss. In a sidebar in part 2, the authors provide "A Handout for Your Patients: A Humorous and Helpful Perspective on Hair Loss."

Throughout history, people have sought remedies for hair loss. In Assyria, in 1500 BCE, common law dictated hairstyles according to social position and occupation. Baldness, considered an unsightly human defect, was hidden by wigs. Ancient Egyptian remedies included chopped romaine lettuce applied to the scalp and an ointment made of juniper berries (*Juniperus communis*) and two unidentified plants kneaded together into a paste with oil and heated. Hippocrates applied pigeon dung to his scalp to try to "sprout" hair. The first professional barbershops opened in Rome around 303 BCE. Roman cures for hair loss included perfumed ointments made from crushed myrtle berries, bear grease, and hippopotamus fat; salves containing the urine of young foals; and liniments made from sulfur and tea. By the 1790s, powdering hair with heavily scented bleached and

pulverized wheat flour was considered stylish. Members of the upper classes in colonial America wore powdered wigs to hide their receding hairlines. American and European folk medicine recommended the use of rosemary (*Rosmarinus officinalis*) and olive oil (*Olea europaea*) scalp massages to promote hair growth.

Hair is the fastest growing tissue in the human body: the average rate of growth is about one-half inch a month. Optimal hair growth occurs from age 15 to 30, slows down from age 40 to 50, and is progressively lost by about age 50. Most men lose hair to some degree by age 35 and are more likely to lose their hair than are women. The life cycle of hair is divided into anagen (active growth), catagen (transitional), and telogen (resting) phases. On a healthy scalp, 90% to 95% of hair follicles are growing, less than 1% is undergoing involution, and 5% to 10% are resting. The prognosis for encouraging hair growth is favorable if treatment begins before the growth stops altogether.

Many genes appear to be involved in hair loss.¹ If even one parent has alopecia, the odds are in favor of the child eventually developing it. Although women carry the genes that determine pattern baldness, they do not usually become bald themselves, but pass on the characteristic to their sons.

Hair loss affects 80 percent of American men. Male pattern baldness (hair loss at the top of the head, called androgenetic alopecia) appears most frequently in men over age 40 and is considered to be a normal part of aging. Male pattern hair loss, which often begins during early adulthood, eventually results in a receding hairline or balding at the crown of the head. Androgenetic alopecia results from the conversion of testosterone into dihydrotestosterone (DHT) by the enzyme 5- α -reductase. Genetics determines the age at which hair follicles begin producing DHT. Hair on certain portions of the scalp reacts differently to DHT. Hair loss among women is usually less severe than in men and typically occurs over the crown of the scalp. Approximately two-thirds of women experience hair loss after menopause. The extent of the hair loss is determined by hormones, heredity, vitamin deficiencies, and age.

Several diseases, including typhoid and scarlet fever, may cause baldness. A gradual loss of hair can be caused by stress, malnutrition, endocrine disorders, drug poisoning, and other diseases. Hair loss caused by disease can be temporary or permanent, depending on the severity and duration of the disease. Certain drugs (antidepressants, blood thinners, hypertension and arthritis medications, and anabolic steroids) can cause hair loss. The most frequent cause of nonhereditary hair loss is the scalp disorder seborrheic dermatitis. Ringworm, pus-forming infections, and burns may also cause loss of hair in affected areas.

Proponents of natural hair care recommend natural hair-care products with pH-balanced formulas in which the alkalinity of the soap is balanced by an acidic conditioner or other substance to neutralize the soap film that forms on the hair. Persons with thinning hair should avoid harsh procedures such as permanents and hair coloring. Styling gels made with extracts of chamomile, sage, rosemary, ginkgo, and hydrolyzed wheat protein are recommended to thicken the hair, revitalize the scalp, and strengthen and texture the hair.

Shampoos that contain natural plant extracts to clean the hair without stripping away the natural oils can be beneficial.

Conventional treatments for thinning hair include drug therapy and hair transplants. Minoxidil and Propecia are the only two drugs approved by the Food and Drug Administration for hair growth in men in the United States. Minoxidil is the only drug available for women with androgenetic alopecia. Both drugs have been found to enlarge existing hairs and retard thinning in the vertex region of the scalp.²

A growing concern about the side-effects of pharmaceutical drugs has led to an increased interest in herbal medicine. The authors note that the Chinese botanical fo-ti (he shou wu; *Polygonum multiflorum*) has shown recent promise as a hair and color restorative and is capable of inducing terminal hair to grow instead of vellus hair (the fine baby hair growth associated with use of minoxidil). Practitioners of Oriental medicine prescribe the herb to prevent hair from thinning and graying, work as a blood tonic or mild laxative, tonify the liver and kidneys, strengthen cartilage and bone, regulate blood pressure, and prevent hardening of the arteries. Traditional Chinese medicine also recommends adding roasted sesame seeds to food. The seeds have been used for centuries in China to treat hair loss.

According to Ayurveda, balding and graying of the hair may be caused by stress, emotional trauma, excessive worrying, sudden blood loss, or excessive sexual activity. Ayurvedic herbs for improving the hair include gotu kola (*Centella asiatica*), eclipta (bhringaraj; *Eclipta prostrata*), amla (amalaki; *Phyllanthus emblica*) sandalwood (*Santalum album*), and licorice (*Glycyrrhiza glabra*). The native Indian plant *Tridax procumbens* is used orally and in hair tonics to promote hair growth. In addition, practitioners of Ayurvedic medicine suggest that bodily weakness is often the cause of hair loss and recommend a nourishing diet of meat, fish, ghee (clarified butter), butter, milk, and other high-protein foods.

A traditional remedy to improve circulation of the scalp includes a daily cup of rosemary, sage, or nettle tea that can also be applied externally to stimulate hair growth. Jojoba oil can be used to cleanse the hair follicles and free them from excessive dirt and oil. Essential oils of lavender (*Lavandula angustifolia*) and rosemary stimulate the scalp and promote healthy hair. In addition, lavender oil promotes relaxation and rosemary oil fosters emotional and mental balance based on the principles of aromatherapy. In a recent study, a combination of essential oils (thyme [*Thymus vulgaris*], rosemary, lavender, and cedarwood) applied topically stimulated hair growth among persons who had lost hair in patches because of an immune disorder.³

Oligomeric proanthocyanidin complexes (OPCs) appear to stabilize the walls of blood vessels, reduce inflammation, and generally support tissues containing collagen and elastin. Procyanidin B-2, an OPC, was found in one study to stimulate hair growth among 30 individuals with male pattern hair loss.⁴

Japanese researchers have reported a correlation between excessive sebum and hair loss.⁵ Dermatologists recommend shampooing to reduce surface sebum, which contains high

levels of testosterone and DHT that may reenter the scalp and stunt hair-follicle growth. The same Japanese researchers reported a major culprit in hair loss to be the Occidental habit of consuming greater amounts of saturated animal fat, a practice that began after World War II.

Vitamins are an extremely important nutrient for human hair, say the authors. The major vitamins involved for addressing hair loss are vitamins A, C, and E, the B-complex vitamins, and folic acid. An additional nutrient that works with vitamins is d-biotin. Minerals that are helpful for addressing hair loss include silica, iron, iodine, selenium, zinc, copper, calcium, and para-aminobenzoic acid. Sulfur-rich foods such as Brussels' sprouts, dried beans, cabbage, eggs, fish, garlic, and horsetail, along with L-cystein, L-lysine, L-cystine, and L-methionine, are beneficial for hair growth. Protein supplements also may help patients who have thinning hair.

Hair loss can have a significant psychosocial impact on patients. Persons who experience hair loss may develop emotional, social, and psychological difficulties, including social anxiety, increased self-consciousness, low self-esteem, embarrassment, and depression. Support and empathy are essential in helping a person accept his or her hair loss.

—Shari Henson

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