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Assistant Clinical Professor of Dermatology
University of Southern California
Medical Center
Los Angeles, CA

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Amy McMichael, MD
Associate Professor,
Director of Hair Disorders Clinic
Wake Forest University Baptist Medical Center
Winston-Salem, NC

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83 GENERAL WARREN BLVD, SUITE 100, MALVERN, PA 19355
(800) 237-7285 • (610) 560-0500 • FAX (610) 560-0501

COSMETIC ASPECTS OF SCALP AND HAIR CARE IN DERMATOLOGY

Jessica Wu, MD
Los Angeles, CA



Healthy, beautiful hair starts with a healthy scalp. However, patients often do not realize that dry, brittle hair, thinning hair, and a dry, itchy scalp may indicate a greater skin problem. For example, psoriasis on elbows and knees may be related to dandruff on the scalp.

A scalp and hair check should be part of every examination, whether you are doing a routine mole check or assessing a specific problem elsewhere on the body. Patients should also be advised regarding how overall nutritional status and adequate exercise affect many conditions. They should also use gentle hair care products to help keep the scalp in top condition. Unfortunately, many hair products are drying, as they upset the natural alkalinity/acidity balance and actually cause itchy scalp.

NATURAL IMPROVEMENTS

Three factors are driving a trend toward natural ingredients. First, the public is increasingly conscientious about environmental issues and views “unnatural” chemicals as harmful to both the body and the environment. Second, many people feel they have sensitive skin and scalp, and they believe products with natural ingredients will often be more gentle remedies for their issues. Third, there is more documented efficacy, which was lacking 10 to 15 years ago.

Speaking specifically about hair care, there are solid clinical testing results for the cosmetic benefits of wheat complex and oat protein, the two key natural ingredients featured in the new AVEENO® Nourish+ line.¹⁻⁴

- 1. Wheat complex.** Components include non-hydrolyzed wheat protein and wheat germ oil.⁵⁻⁷ These components help support the moisture content of hair and skin, and protect skin and hair against environmental damage. Most shampoos and conditioners, when applied, coat the entire hair shaft, which weighs down hair. Wheat complex addresses the weakest area of the hair, the cuticle, which protects the hair shaft and determines whether it has a healthy or unhealthy look.³

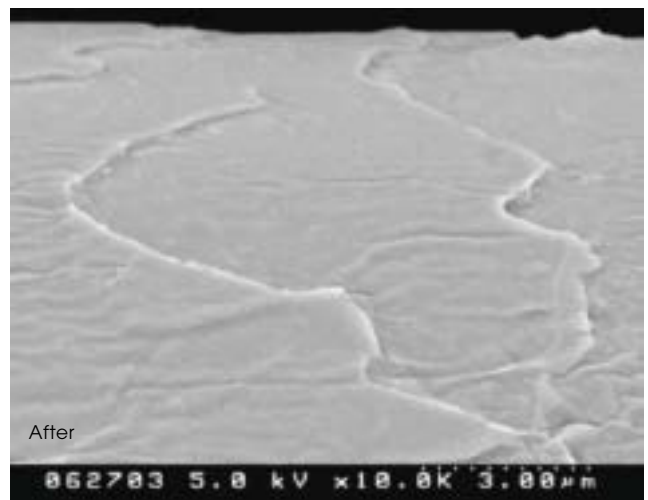
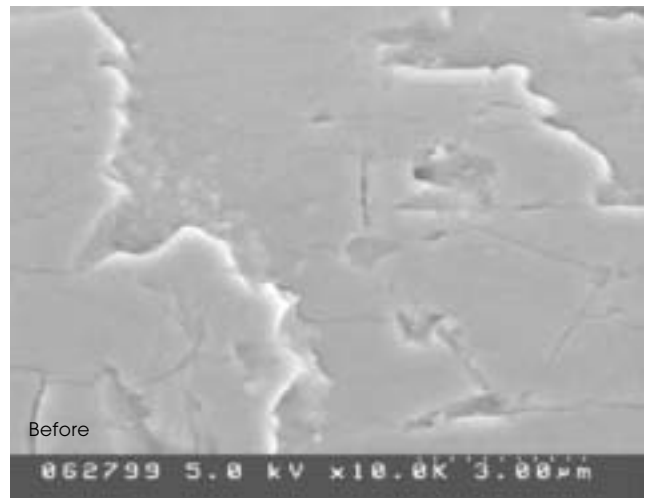


FIGURE 1. SEM pictures of chemically damaged untreated hair (top) and chemically damaged treated hair (bottom) at 10,000x magnification show that the treated hair has more even consistency, is smoother, has repaired cracks and chips, and has less structural erosion.

In addition, hair treated with these formulas exhibits dramatically decreased comb force in clinical testing.¹ Untreated hair generated a mean comb force of nearly 69 gf while the comb force generated by treated hair

TABLE 1. IMPROVED COSMETIC RESULTS — PERCENT INCREASE IN SHINE

PRODUCT REGIMEN TESTED	PERCENT INCREASE IN SHINE VS. UNTREATED	SIGNIFICANCE VS. CONTROL (P<0.05)
Nourish+ Soothe shampoo with Nourish+ Moisturize conditioner	32	✓
Nourish+ Volumize shampoo and conditioner	28	✓
Nourish+ Revitalize shampoo and conditioner	27	✓
Nourish+ Moisturize shampoo and conditioner	20	✓

WHAT YOU SHOULD KNOW ABOUT NEEM OIL AND SEED EXTRACT

Researchers continue to test the efficacy and safety of natural ingredients, and there is a growing body of evidence that supports their use. However, as with any type of ingredient used in a population with skin sensitivity, it is important to exercise appropriate caution.

For example, neem oil or seed extract have been used in traditional medicine for centuries as ingredients in homeopathic remedies.¹ Other parts of the neem tree, particularly the leaf, have been “demonstrated to exhibit immunomodulatory, anti-inflammatory, antihyperglycaemic, antiulcer, antimalarial, antifungal, antibacterial, antiviral, antioxidant, antimutagenic and anticarcinogenic properties.”² Researchers have also showed that neem seed extract is highly effective in treating all states of head lice, as well as common skin diseases such as acute and chronic eczema, ringworm and scabies.^{3,4}

However, Reutemann and Ehrlich report that “both systemic and contact reactions have occurred with the use of neem oil.”¹ They present a case study of a patient who presented with acute contact dermatitis on the scalp and face after using neem oil as a treatment for alopecia.

Therefore, when it comes to recommending hair products containing new or uncommon ingredients, we need to exercise caution and ensure products have been tested for irritancy if patients have sensitive skin. ■

References

1. Reutemann P, Ehrlich A. Neem oil: an herbal therapy for alopecia causes dermatitis. *Dermatitis*. 2008;19(3):E12-15.
2. Subapriya R, Nagini S. Medicinal properties of neem leaves: a review. *Curr Med Chem Anticancer Agents*. 2005;5(2):149-156. Review.
3. Abdel-Ghaffar F, Semmler M. Efficacy of neem seed extract shampoo on head lice of naturally infected humans in Egypt. *Parasitol Res*. 2007;100(2):329-332.
4. Brahmachari G. Neem — an omnipotent plant: a retrospection. *Chembiochem*. 2004;5(4):208-221.

was as low as 13.68 gf (in hair treated with leave-in conditioner). The higher the comb force, the greater the trauma and breakage caused by combing. Wheat complex works in these formulas to provide the dual benefits of stronger hair and decreased force required to comb hair. This combination facilitates the increased manageability users want for cosmetic reasons.¹

2. Oat protein. This has been shown to penetrate into the cuticle, even after only one treatment. Clinical testing found that hair treated with formulas including oat protein were stronger and more elastic than untreated hair. All Nourish+ regimen treatment groups with oat protein showed a statistically significant decrease in the percentage of broken fibers (P<0.05) when compared to the untreated bleach-damaged control group.^{1,3} The practical result is that hair will bounce back without breaking.^{1,3}

The wheat complex/oat protein combination formulas repair chips in and fraying along the cuticle caused by blow-drying, combing and brushing. SEM pictures of chemically damaged untreated and treated hair at 10,000x magnification show that the treated hair has a more even consistency; is smoother, with repair of cracks and chips; and has less structural erosion (see **Figure 1**).¹

3. Lipids/fatty acids. Virgin hair cuticle cells are nearly completely free of voids and cracks.⁸ Voids, cavities and gaps begin to present in these cuticle cells when hair is subjected to friction, extension, torsion and thermal stresses.⁸ A recent analysis found the presence of exogenous lipids in these cavities to be critical to the mechanical integrity of the cuticle cells. The lipids act to heal reversible deformations in cuticle cells and provide a weak adhesive to fill the voids in irreversibly deformed cells.⁸ Natural ingredients such as jojoba oil, coconut oil, and Brazilian oils and butters seek to restore these lipids.

Research has found that hydrolyzed jojoba esters improve sensory skin “feel” when included in a variety

TABLE 2. COSMETOLOGIST EVALUATION: PERCENT OF SUBJECTS SHOWING IMPROVEMENT FROM BASELINE

ATTRIBUTE	NOURISH+ REVITALIZE REGIMEN	NOURISH+ VOLUMIZE REGIMEN	NOURISH+ MOISTURIZE REGIMEN	AVERAGE
Elasticity/ breakage	88	88	85	86
Shine	92	83	81	85
Softness	96	67	85	82

of skin, hair and nail care cosmetic and personal care products.⁹ A pilot study showed that jojoba has a “unique moisturizing potential” to maintain its effects for 24 hours when combined with glycerol.⁹

Researchers have also examined the properties of mineral oil, sunflower oil and coconut oil in relation to hair and prevention of combing damage on various hair types.¹⁰ Of the three, coconut oil was the only one that significantly reduced protein loss in undamaged and damaged hair.¹⁰ Coconut oil, which is a combination of constituents including an essential fatty acid, exhibits high affinity for hair proteins and is able to penetrate the hair shaft due to molecular weight and a straight linear chain.¹⁰ Another study on the sorption and desorption of water vapor on hair fibers treated with various oils found that coconut oil-treated hair had higher moisture retention and regain than mineral oil-treated hair.¹¹

A study of oils and butters extracted from Brazilian plants found that oil treatment reduced comb force percentage under wet conditions; ucuúba butter improved hair tensile properties; and oil treatment resulted in glossier hair with fewer split ends.¹² Other natural ingredients and botanicals, such as bergamot and boxthorn, are in the early stages of testing.¹³

COSMETIC RESULTS AND COMPLIANCE

Tables 1, 2 and 3 show favorable assessments by patients and cosmetologists alike of cosmetic aspects of hair after treatment with AVEENO® Nourish+ products.³ Cosmetologists found that hair treated with both shampoo and conditioner exhibited at least 20 percent more shine than untreated hair, and as much as one-third more when the Soothe and Moisturize products were used in combination (Table 1). On average, hair elasticity/breakage improved in 86% of subjects, shine improved in 85% and softness improved in 82% over baseline in cosmetologist evaluations (Table 2). In Table 3, patient evaluations of improvement from baseline show similarly favorable results.

Figure 2 shows the improvements in subjects' hair as assessed by cosmetologists in a variety of cosmetic aspects, including moisturization, healthy look, manageability, elasticity/breakage, shine, smoothness, softness and overall appearance.² Manageability in particular showed significant mean improvement from at least 10% to as much as 24% from baseline for each of the products. This is important because patients are less likely to subject manageable hair to overly harsh styling techniques such as curling irons, flat irons and chemicals. Accordingly, the hair is subject to less damage and becomes healthier as a result. It is a virtuous rather than a vicious circle.

In regard to patient compliance, prescription-strength shampoos can be quite costly. Many patients have indicated to me that they would first prefer to try to find relief from less expensive, non-prescription products if possible. First, prescription products often do not produce the cosmetic results patients desire. Second, many of my patients prefer to use over-the-counter hair care products because they believe prescription shampoos frequently interfere with color-treated hair, making more frequent visits to the hair stylist necessary. This is inconvenient, time-consuming and costly.

Also, prescription shampoos tend to be less cosmetically elegant. While these products may be effective at treating the scalp, they tend to lather less well and leave hair less manageable than over-the-counter shampoos, which can hinder patient compliance.

In addition, some of them leave a medicinal smell that may be unacceptable to many patients. The majority of hair care products have a scent, because most people expect their hair to smell pleasant after washing. In fact, many people may choose their shampoo based on fragrance. However, patients who have sensitive skin or atopic dermatitis may develop an irritant or allergic reaction to heavily fragranced hair products, especially if the outbreak is on their face or hairline. These patients should be advised to choose products that are lightly scented, and to rinse well after washing.

TABLE 3. PATIENT EVALUATION: PERCENT OF SUBJECTS SEEING IMPROVEMENT FROM BASELINE

	AVEENO® NOURISH+ VOLUMIZE		AVEENO® NOURISH+ REVITALIZE		AVEENO® NOURISH+ MOISTURIZE		AVEENO® NOURISH+ SOOTHE	AVEENO® NOURISH+ CONDITION
	Shampoo	Conditioner	Shampoo	Conditioner	Shampoo	Condition	Shampoo	(Leave-in)
Add body to hair	83	80	72	70	72	67	74	74
Strengthen hair	75	77	76	76	78	79	70	78
Reduce hair breakage	70	72	78	72	70	74	69	76
Leave hair with a healthy shine	86	86	83	84	85	86	81	88
Leave hair healthy and beautiful	87	86	87	86	86	87	76	88
Make your hair look its best	80	77	82	84	79	79	72	82

Patients with skin conditions may be especially sensitive about the way they look so they particularly appreciate products that can help enhance their appearance. We need to consider all of these factors and their potential impact on compliance, key components of treating a chronically dry, itchy scalp.

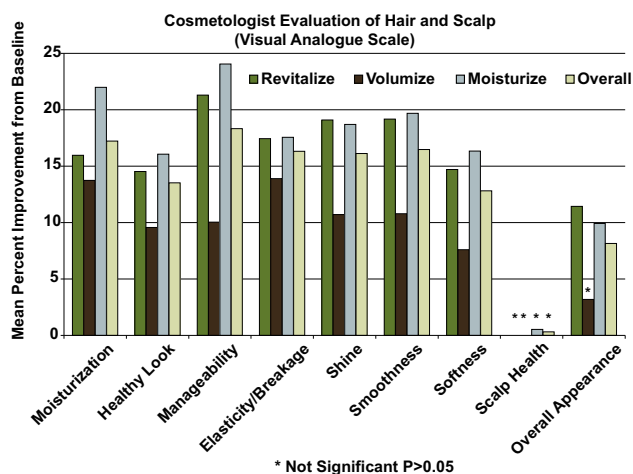
IN CONCLUSION

By ensuring a scalp and hair check at every examination, we can identify potential dilemmas and educate our patients on how they can resolve issues such as dry, thinning hair or an itchy scalp. The emerging research on the efficacy of natural ingredients and their impact in addressing the cosmetic concerns of patients only adds to our treatment armamentarium when recommending products to our patients. By combining this knowledge with careful consideration of potential compliance issues, we can help promote a return to healthy hair and scalp for our patients. ■

References

- Efficacy Evaluation by Instrumental Analysis of Nourish+ Shampoos and Conditioners. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
- A Clinical Efficacy Evaluation of the Three AVEENO® Nourish+ Shampoo and Conditioner Treatment Regimens After Three Uses on Dry, Damaged Hair. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
- Re: AVEENO® Nourish+ Haircare Collection. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
- Protection of Hair During Heat Styling Using Nourish+ Moisturize Shampoo and Conditioner Followed by Nourish+ Condition Leave-in Treatment. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
- Wheat germ, crude. Nutrient values (NDB No. 20078). USDA National Nutrient Database for Standard Reference, Release 21 (2008). <http://www.nal.usda.gov>. Accessed April 1, 2009.

FIGURE 2. Mean Percent Improvement from Baseline as Evaluated by Cosmetologist



- Oil, wheat germ. Nutrient values (NDB No. 04038). USDA National Nutrient Database for Standard Reference, Release 21 (2008). <http://www.nal.usda.gov>. Accessed April 1, 2009.
- Wheat-germ derived ceramides. New dietary ingredient notification. Submission to US Food and Drug Administration Office of Nutritional Products, Labeling and Dietary Supplements. March 7, 2005.
- Gamez-Garcia M. The effects of lipid penetration and removal from subsurface microcavities and cracks at the human cuticle sheath. *J Cosmet Sci.* 2009;60(2):85-95.
- Meyer J, Marshall B, Gacula M Jr, Rheins L. Evaluation of additive effects of hydrolyzed jojoba (*Simmondsia chinensis*) esters and glycerol: a preliminary study. *J Cosmet Dermatol.* 2008;7(4):268-274.
- Rele AS, Mohile RB. Effect of mineral oil, sunflower oil, and coconut oil on prevention of hair damage. *J Cosmet Sci.* 2003;54(2):175-192.
- Keis K, Huemmer CL, Kamath YK. Effect of oil films on moisture vapor absorption on human hair. *J Cosmet Sci.* 2007;58(2):135-145.
- Fregonesi A, Scanavez C, Santos L, et al. Brazilian oils and butters: the effect of different fatty acid chain composition on human hair physicochemical properties. *J Cosmet Sci.* 2009;60(2):273-280.
- Shao LX. Effects of the extract from bergamot and boxthorn on the delay of skin aging and hair growth in mice. *Zhongguo Zhong Yao Za Zhi.* 2003;28(8):766-769

CURRENT CONCEPTS IN HEALTHY HAIR AND NATURAL HAIR CARE

Amy McMichael, MD
Winston-Salem, NC



In the last 10 years, there has been a revolution in medicine in which preventive medical care and care of the whole patient have become paramount. As we strive to become healthier internally, in a natural way, the trend has extended to the treatment of the external areas of our bodies. Women and men alike want to approach skin and hair care as a part of a healthful living practice. The goals are to prevent damage and disease to the scalp and hair; to treat any damage or disease that does occur; and to do all of this with an easy-to-follow, affordable regimen that is compatible with a busy lifestyle. Not only is this a tall order for medical specialists such as dermatologists, but it also a demanding challenge for the hair care industry.

Preventive care for the scalp and hair is likely the newest part of the regimen for most women. In the past, most patients would arrive at the dermatologist's office with significant damage to the hair — something they take care of immediately, because of its cosmetic implications — or a severe scalp problem they've tried for many months or years to ameliorate on their own.

Currently, many patients come to the dermatologist early on, just as the problem is arising or even for preventive care, before problems arise. Patients are more aware of total-body health, and they wonder what they can do to address stressors such as heat and chemicals that cause damage as part of their daily hair care regimens. These patients have read about the supplements, vitamins, and foods that prolong health, and they want to know what they can do to keep a healthy head of hair over a lifetime. Still, many other patients arrive in dermatologists' offices with very little insight as to their role in hair care, and what they can do to promote the overall health of the hair.

For both the informed and the uninformed patients, a combined medical and hair care regimen approach is the key to improving the state of the hair and scalp. Just as patients come in for a skin rejuvenation consultation, many of these

patients are now asking for hair and scalp rejuvenation consultations — something difficult to provide without the history of a patient's hair care, an understanding for the underlying abnormalities of the hair and scalp, and the knowledge of what consumer products are available to complement a medical regimen for hair care recommendations.

DRY, DAMAGED HAIR

One of the most common problems we face as dermatologists is the patient who has dry and damaged hair, with or without an underlying scalp disorder. The patient often presents with a localized or diffuse breakage of hair on the scalp and perhaps a pull test that is positive for breakage as well. Cuticular damage/disruption is the underlying abnormality when breakage and dry hair is observed clinically.

In the approach to treatment, the first order of business is to question what hair care regimen the patient uses, particularly chemical (color, permanent waving or chemical relaxers) and heat (curling iron, flat iron, blow drying and other hair texturization tools) and how frequently these services are performed. Another culprit can be shampoos and conditioners that claim a hair shaft-thickening effect. While these thickening products may work well on the undamaged hair shaft, they can worsen damage to the already-disturbed hair fiber. This is because they can cause the hair shaft to swell, further weakening a damaged fiber. Constant brushing and combing or use of drying styling agents may cause or add to the problem of breakage.

The next step in handling these patients is to suggest choosing one styling regimen over another; for example, heat versus chemicals, color versus chemical relaxer. It is important to give a recommendation for a shampoo and conditioner pair that will moisturize and repair the hair fiber. Leave-in moisturizers can be a helpful addition. A hair cut to minimize the amount of remaining damaged hair is important, as are routine trims every 6 to 8 weeks, to minimize continued damage. Any scalp condition should be

TABLE 1. MEAN PERCENT IMPROVEMENT FROM BASELINE AS EVALUATED BY COSMETOLOGIST

	AVEENO® PRODUCT CATEGORY			
	REVITALIZE	VOLUMIZE	MOISTURIZE	OVERALL
Moisturization	16	14	22	17
Healthy look	15	10	16	14
Manageability	21	10	24	18
Elasticity/breakage	17	14	18	16
Shine	19	11	19	16
Smoothness	19	11	20	16
Softness	15	8	16	13
Overall appearance	11	3	10	8

addressed using medications that will not cause hair fiber damage. Preferred vehicles for medications when the hair is damaged are oils, lotions, ointments and emollient foams, but any vehicle chosen for medication should also fit the patient’s regimen. Anything too far outside a patient’s regular routine will decrease compliance.

For those with dry, damaged hair with no underlying scalp problems, medications may not be required. Patients are often underwhelmed with the diagnosis of hair shaft damage and assume that taking vitamins or adopting a certain diet can improve overall appearance of the hair. These patients should be discouraged from buying expensive oral vitamins and supplements, because none have been scientifically proven to have any effect on the hair cycle or the hair fiber itself. The hair care regimen in this case should include a moisturizing shampoo and conditioner along with leave-in conditioners.

CARING FOR ETHNIC HAIR

Women of African descent tend to have more problems with dry and damaged hair shafts, thought to be secondary to an innate fragility as well as a common use of many damaging hair care regimens. These factors call for specialized hair care products to address moisturization, smoothing damaged cuticular layers and adding an overall healthy look to the hair. A layering approach is the best regimen. A moisturizing shampoo, followed by a moisturizing conditioner, a leave-in conditioner to the wet hair and a leave-in conditioner to the dry hair, along with a daily moisturizer is the foundation to rejuvenating dry hair in these patients.

African-American women face an on-going challenge to keep the hair manageable. Though one cannot make generalizations about hair type in African-American women, a large percentage of the African-American women who seek the care of a dermatologist regarding hair problems have difficult-to-manage hair. The difficulties often include breakage, thinning at the frontal hair line, thinning at the temples and diffuse loss over the vertex. The result is lackluster hair that must be styled using a harsh spray or gel to immobilize the hair and cover areas of hair thinning or loss.

All these factors call for gentle cleansers in a shampoo, to allow for cleansing of the scalp without further disruption of the hair shaft. This should be followed by a conditioner that coats the hair shaft to smooth the cuticle and makes the hair less likely to break with daily grooming. The leave-in conditioner (for use on both wet and dry hair) is a must for these patients, because wash-out products do not allow for maximum conditioning.

STAGE OF LIFE AND HAIR CARE

Another consideration for current patients is a shampoo and conditioner regimen that is complementary to the stage of life they are currently experiencing. Young women want to have significant versatility with hairstyles, hair colors and lengths. They do not want to be slowed down by breakage and damage while changing styles frequently. Middle-aged women have usually settled into a look that is more comfortable and want to maintain this look with minimal

TABLE 2. PERCENT OF SUBJECTS SHOWING IMPROVEMENT FROM BASELINE BY COSMETOLOGIST EVALUATION

	AVEENO® PRODUCT CATEGORY			
	REVITALIZE	VOLUMIZE	MOISTURIZE	OVERALL
Moisturization	88	83	77	82
Healthy look	88	79	92	86
Manageability	92	79	92	88
Elasticity/breakage	88	88	85	86
Shine	92	83	81	85
Smoothness	96	92	92	93
Softness	96	67	85	82
Overall appearance	63	46	69	59

upkeep, since family and work responsibilities are so demanding at this time. The mature woman wants to improve the appearance of gray hair, maintain the illusion of full density, and keep wiry hair changes smooth and under control. To achieve these goals, consumer products — shampoos, conditioners and styling aids — must answer the needs of women at all stages of life.

PRODUCT SELECTION

When faced with the many choices on the market for hair care, there is no end to the products that are named for television and movie stars, famous hair stylists, and even physicians. But choosing a product from the wide array available can be daunting. Even those who have no hair shaft abnormalities want to choose products that enhance shine, manageability and styling options. Often, the dermatologist is as confused as the patient by the massive number of products and claims. The way to make the choice is to choose those products that contain components that will gently cleanse the hair and scalp, smooth the cuticle of the hair shaft, induce shine and movement, and provide manageability. The final test is that of consumer or patient use — how it delivers on the claims noted on the label.

While there are many products that can answer these claims for patients, a newcomer to the hair care world is the AVEENO® Nourish+ hair care line. The line consists of three shampoo and conditioner pairs (Nourish+ Revitalize, Nourish+ Volumize, Nourish+ Moisturize), as well as a leave-in conditioner product (Nourish+ Condition) and a

stand-alone shampoo (Nourish+ Soothe). The products contain a proprietary wheat complex and oat protein formula that has undergone extensive testing with regard to safety and effectiveness on hair. The AVEENO® brand is well-known as a moisturizing skin care line helpful for the treatment of dry and irritated skin. Now that the company best known for the addition of active, natural ingredients to their moisturizing consumer products has ventured into the world of general hair care, dermatologists, patients and consumers alike will expect a lot from the products, and the active natural complexes specifically.

Natural additives in hair products are not new. For years, there have been additions to products to enhance consumer interest. These products include saw palmetto, shea butter, cocoa butter, jojoba oil and tea tree oil, to name just a few. Most of these products have no clinical studies to back up claims of improving the appearance and health of the hair.

Often, manufacturers simply add the fashionable oral supplement of any given time to topical products, often in very low concentration, and with no scientifically determined delivery system to either the scalp or the hair shaft. Other additives are used to attract a particular ethnic or age group to buy a product. Patients bring these products into the dermatologist as part of their hair disorder consultation and are often very protective of their products, claiming that the natural claims on the product de facto equals safety and efficacy. Unfortunately, the lack of clinical information on untested products make them a less-safe option for those with hair abnormalities.

FIGURE 1. Static Generated After 15 Passes of Straightening Iron

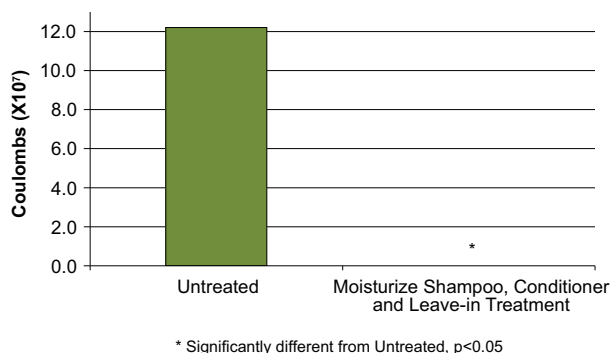
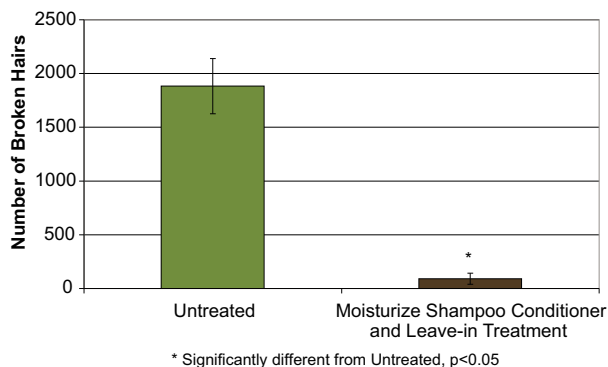


FIGURE 2. Number of Broken Hairs After 15 Passes With Straightening Iron and 10,000 Strokes



SCIENCE TO BACK THE CLAIMS

Historically, the AVEENO® line has shown scientifically proven activity and benefit from the addition of natural ingredients to its topical skin moisturizing line. In keeping with this trend, clinical studies have been performed on the wheat complex and oat protein in the new AVEENO® Nourish+ hair care product line. Here is a brief summary of some of these trials:

- One study of the Nourish+ Revitalize Shampoo and Conditioner, Nourish+ Volumize Shampoo and Conditioner, and Nourish+ Moisturize Shampoo and Conditioner performed on dry, damaged hair showed the products to be safe and well-tolerated as evaluated by both cosmetologists and patients. Significant improvements from baseline in healthy look, manageability, softness, shine and smoothness, and moisturization were also observed.¹

- One evaluation of the Nourish+ Shampoo, Conditioner and Leave-in Treatment before heat styling found their application dramatically decreased fly-aways and hair breakage and increased manageability.² As seen in **Figure 1**, the highly effective moisturization minimized static electricity generated by heat styling.
- Under controlled conditions, wet-combing of chemically damaged hair samples that had each been treated with one shampoo/conditioner combination of the products was found to be statistically significantly decreased.³
- Combing-related breakage of bleach-damaged hair was statistically significantly improved with each of the products (see **Figure 2**).⁴ Cosmetologist and consumer evaluations indicated similar improvement in shine, luster and hair volume (see **Tables 1 and 2**).⁴

In a market full of products with unsubstantiated claims, it is refreshing to know that a product line has been researched, provides an active natural additive and addresses the typical woman’s hair concerns.

CONCLUSION

In summary, the hair care sector is following current trends in overall healthful living with an emphasis on a natural approach. Consumers and patients alike want to know how to navigate the crowded shelves of long shampoo aisles and choose products that improve their health, add beauty and provide complementary effects on the hair in association with medical treatments for the scalp and hair. Hair rejuvenation is here to stay, so to answer the requests of patients, dermatologists must help patients to choose a hair care regimen that is current, effective and in line with their lifestyle — and base that decision on clinical evidence that backs the products’ claims. ■

References

1. A Clinical Efficacy Evaluation of the Three AVEENO® Nourish+ Shampoo and Conditioner Treatment Regimens After Three Uses on Dry, Damaged Hair. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
2. Protection of Hair During Heat Styling Using Nourish+ Moisturize Shampoo and Conditioner Followed by Nourish+ Condition Leave-in Treatment. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
3. Efficacy Evaluation by Instrumental Analysis of Nourish+ Shampoos and Conditioners. Data on file. Johnson & Johnson Consumer Products Worldwide. Skillman, NJ: 2009.
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