

# Hair Care Practices in African American Women

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*Hair care in African American women is wrought with historical and cultural issues. Dermatologists need to improve their understanding of hair and scalp disorders in their African American patient population by being informed about the styling methods commonly used by and for these patients. The styling habits described in this article are intended to encompass the hairstyles adapted by a wide range of African American women with varying hair textures.*

*Cutis.* 2003;72:280-282, 285-289.

Despite the differences in length and type of hair, the majority of African American women use various methods to straighten their hair. It is estimated that 80% of these women treat their hair with chemical relaxers.<sup>1</sup> The practice of repetitive chemical relaxing may contribute to the common scalp disorders seen in these patients.<sup>1</sup> The desire for straight hair stems from many factors. The most compelling may be the historical value the African American community places on hair texture and length. By the early 1900s, both African American and white communities placed personal merit on lighter skin and long straight hair. Bundles<sup>2</sup> writes, "Well-groomed hair among the black elite meant hair that was not matted or scraggly." A trend toward more natural or Afrocentric styles began in the late 1960s and 1970s.

Ethnic hair care is a billion dollar industry.<sup>1,3</sup> Unlike most other consumer markets, the hair care market is split into general and ethnic segments.<sup>3</sup> Most stores have a separate section for ethnic hair care products. African American hair care is composed of products and services devoted to grooming excessively curly hair, which requires specialized handling and styling techniques, as well as product formulations.

The purpose of this article is to familiarize dermatologists with the often-sensitive subject of hair care practices of their African American women patients. We hope to bridge the cultural gap that causes patient frustration and physician confusion. Questions about hair washing frequency, water phobia, and thermal styling will be addressed. This article aims to provide physicians with a better understanding of the various styling methods and cultural attitudes of this patient population and to help physicians treat their African American patients with hair disorders.

## Structural Properties

African American hair is similar to straight hair in amino acid content; however, it differs in the structure of the hair shaft, which resembles a twisted oval rod.<sup>3</sup> The tight curl pattern makes the hair particularly susceptible to breakage when manipulated. The tensile properties of excessively curly hair indicate that it has a lower strain value at breaking point compared with straight hair.<sup>3</sup> The vast majority of the African American population has a spiral hair shaft, which has a reduced diameter from the scalp outward. The hair of African American people also has a long major axis, giving the hair a flattened elliptical shape. In addition, the scalp hair follicles are curved.<sup>4</sup> As a result of these factors, African American hair has more of a tendency to form knots and longitudinal fissures

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Accepted for publication January 17, 2003.

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The authors report no conflict of interest.

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and splits along the hair shaft compared with the hair of white and Asian populations.<sup>4,5</sup>

### Moisturizing the Hair and Scalp

The water content in African American hair is slightly less than that in the hair of white people,<sup>3</sup> and the sebaceous glands in the scalp of African American people are often less active, secreting an inadequate amount of sebum that has difficulty traveling down the spiral hair shaft.<sup>3</sup> Moisturizing the hair enables combing without the tugging or pulling that can result in damage to the hair shaft.

### Straightening the Hair

Curlier hair is more difficult to comb, which limits the ability to achieve many popular hairstyles. Pressing and chemical relaxing (lanthionization) are used to straighten hair and to achieve the widest variety of hairstyles.

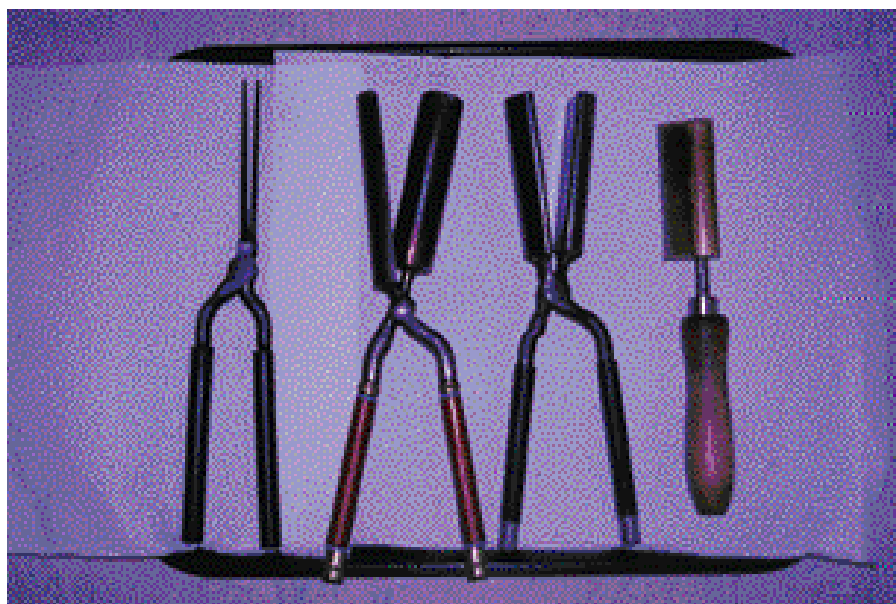
*Pressing*—Also known as thermal hair straightening or hot combing, pressing is a process that straightens hair using high heat, oils, and metal implements. Pressing instruments are constructed of stainless steel or brass, and the handles are made of wood to prevent heat absorption. The implements (Figure 1) are heated to temperatures of about 350°F by household or marcel stoves or by electric heat.<sup>6</sup> The temperature of the instrument is tested on a piece of light paper that will become scorched if the implement is too hot.<sup>6</sup> Table 1 details the various pressing methods.

Madame C.J. Walker has been incorrectly credited with the invention of the straightening

comb; however, she did pioneer the development of hair oils and the marketing and distribution schemes used to popularize the method.<sup>2</sup> Although chemical relaxing is the predominant hair straightening method used by African American women, pressing is still used today by those who prefer not to permanently alter the natural texture of their hair.

An oil or cream is applied to the hair and scalp to prepare them for the pressing treatment. Oils continue to be used for this process despite cautions concerning scarring alopecia.<sup>7</sup> Oil makes hair softer, prepares and conditions hair for pressing, helps prevent hair from burning or scorching, helps condition the hair after pressing, adds sheen to pressed hair, and helps hair stay pressed longer. LoPresti et al<sup>7</sup> described the association of petrolatum-based oils with scarring alopecia. Creams and lotions used today have less petrolatum and allegedly decrease the risk of this condition.

The temporary nature of pressing can contribute to lifestyle changes and an increased risk of hair and scalp damage. A large number of African American women do not swim or exercise for fear of “sweating out the hair” or of the hair “going back” to its natural curl, which would ruin their often expensive hairstyle (Figures 2 and 3). The alternative is for women to press their hair at home every few days to “hold the press,” which leads to excessive hair damage and a risk of thermal burns. Scalp, ear, and neck burns are frequently encountered. *Milady's Standard Textbook of Cosmetology* advocates immediate application of 1% gentian violet jelly after a burn.<sup>6</sup>



**Figure 1.** Pressing combs and thermal irons vary in size and are used for straightening, flatironing, and curling hair.

Table 1.

**Pressing Methods**

Soft press	Removes 50%–60% of the curl When applying thermal pressing, comb once to hair on each side of the head
Medium press	Removes about 60%–75% of the curl When applying thermal pressing, comb once to hair on each side of head using slightly more pressure
Hard press	Removes 100% of the curl When applying thermal pressing, comb twice to hair on each side of the head
Double press	Passing a hot curling iron through the hair prior to applying the thermal pressing comb



**Figure 2.** Natural hair that is unprocessed.

There is no mention in the manual of using topical antibiotics such as bacitracin, which is more likely to be efficacious and recommended by a physician. Complications and side effects of thermal styling are listed in Table 2.

*Chemical Relaxing*—Many African American patients describe this process as similar to permanent waving; however, the perming process is used to curl straight hair while chemical relaxing straightens curly hair using chemicals that alter the hair’s natural texture. A chemical relaxer, unlike a press, prevents the hair from reverting to its natural state when exposed to water or humidity.

When developed in the 1940s, chemical relaxers were crude concoctions of sodium hydroxide or potassium hydroxide (lye) mixed in potato starch.<sup>3</sup> In the 1950s, the relaxing formulas were placed in a creamy base of petrolatum, fatty alcohols, and emulsifiers. Before relaxing the hair, a petrolatum base was applied to the scalp to protect it. Women were instructed not to shampoo or manipulate the scalp prior to applying the relaxer to avoid burning and irritating the scalp. The popular products used today in salons and at home are more advanced and do not include base or lye (formulated with

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Table 2.

**Complications and Side Effects of Thermal Styling**

Injury	Potential Complication
Scalp burns and burnt hair	Can lead to temporary or cicatricial alopecia
Ear and neck burns	Infection, postinflammatory hyperpigmentation/hypopigmentation
Vigorous and too frequent pressing	Progressive breakage and shortening of hair

Table 3.

**Steps in Chemical Relaxing (Lanthionization)**

Processing	Chemical relaxer is applied to the hair, which immediately begins to soften, enabling the chemical to penetrate the hair and thus loosen and relax the natural curl
Neutralizing	Once the hair has been sufficiently processed, the chemical relaxer is thoroughly rinsed out with warm water followed by either a built-in shampoo neutralizer or a combination product of prescribed shampoo and neutralizer
Conditioning	Chemical relaxer opens the hair cuticle, which is unable to maintain moisture. Depending on a client's needs, the conditioner may be part of a series of hair treatments or may be applied to the hair after the relaxing treatment
Retouching	Chemical relaxer is applied to the new growth of hair every 8 to 10 weeks to maintain the straight style as the hair grows

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guanidine hydroxide) relaxers but do include non-base, texturing, and conditioning relaxers. The steps involved in the chemical relaxing process are discussed in Table 3.<sup>6</sup>

Chemical relaxing changes one third of the cysteine contents of the hair to lanthionine and hydrolyzes peptide bonds.<sup>3</sup> The solution penetrates into the cortical layer and the cross bonds (sulfur and hydrogen) are broken. The chemicals are highly alkaline and can leave the hair with a pH level as high as 12.0. If left on the hair too long, the solution will digest the hair. The length of time it should remain on the hair depends on hair thickness.

A neutralizer stops the chemical reaction of the relaxer. It re-forms cysteine (sulfur) cross bonds in their new position and rehardens the hair. It has been proposed that a neutralizing shampoo (pH

level 4.5–6.0) brings the hair back to a pH balance of 4.0 to 6.0.

*Blow-drying*—Blow-drying is the process of repetitive combing in the presence of moderate heat. A comb or brush is used to style the hair as heat from the blow-dryer follows the combing or brushing motion from the scalp to the hair ends. In African American women, it is used as a means to straighten hair, to prepare hair for optimal pressing, and to style hair after chemical relaxing.

*Permanent Waving*—This process is similar to perming straight hair except that curly hair is straightened. Permanent waving (Jheri curl, curly perm) consists of applying ammonium thioglycolate to the hair, re-treating the hair with a lotion containing ammonium thioglycolate, and wrapping the hair on rollers.<sup>3</sup> The style is maintained with a glycerin-based spray or lotion applied daily. A



**Figure 3.** Hair after being straightened with a pressing comb. Some African American women do not exercise or swim for fear of “sweating out the hair” or the hair “going back” to its natural curl, which will ruin their expensive hairstyle.



**Figure 4.** Individual braided extensions with blonde highlights, mimicking long wavy hair.

decline in the use of perming is due to problems such as excessive hair breakage, chemical stains on collars and pillows, and lack of styling versatility.

### Styling the Hair

**Setting**—Various molding techniques (finger waving, freeze, wrapping) are used to attain hairstyles ranging from a light hold to a freeze hold. Many popular hairstyles are achieved by molding or curling the hair with rollers and then applying setting lotions and styling gels. These fixatives are balanced with plasticizers such as propylene glycol or glycerin. We have found that such styles can be difficult to manipulate and prohibit adequate clinical examination of the scalp.

**Braiding and Cornrowing**—The coiffures of sports stars Allen Iverson and Venus and Serena Williams are examples of the growing popularity of braiding and cornrowing. Braiding has its roots in Africa but has been transformed by the African American influence and by style trends. Braids are styled by interlocking 3 or more pieces of hair to create a 3-dimensional section that extends from the head.<sup>6</sup> Many of the popular braids, including individual braids, mimic the hairstyles of white women. Braid-

ing with hair extensions serves to create a desired style, as well as to give an appearance of length (Figure 4). The braids are intended to swing, hang, and move similar to straight hair. Extensions can be made from either human hair or synthetic hair.

Braiding has been showcased with blonde highlights, beads, or weaved threads in a kaleidoscope of colors.<sup>8</sup> Braids are frequently used to “grow out” hair or to “give hair a break” from relaxers and thermal styling. The ancient style of braiding can transform an African American woman’s lifestyle. Many women adopt a braid style when implementing an exercise program to avoid styling dilemmas.

Plaits, single braids, and microbraids are individually sectioned braids. Because the hair is in small sections, the braids can be gathered, moved, and easily manipulated. The style is popular because it can mimic long straight hair (Figure 4).

The term *cornrow* is derived from the resemblance of the braids to planted rows of corn.<sup>8</sup> A cornrow is a stationary braid that lays flat on the scalp. The parting of the hair is fundamental to the accuracy and beauty of the style.

**Weaving**—Hair weaves are done for fashion, therapeutic, and prosthetic reasons. Many women



**Figure 5.** A partial hair weave that has been sewn onto the scalp.

believe that a weave style will help them grow out their hair, cover a balding area, add thickness to their hair, or create style.<sup>8</sup> Hair weaves can be partial or full (Figure 5). A weave can take several hours to perform, and the style lasts at least 2 months. Usually the natural hair is cornrowed and then the hair to be added is sewn, braided, or glued onto the cornrow or exposed scalp.<sup>8</sup>

*Twists*—Twisting helps to minimize the bulk of thick hair, redefines the hair's natural curl, and makes the hair manageable from day to day.<sup>8</sup> A twist requires regular styling or biweekly visits to the salon.

*Locks*—Wearing locks is a long-time commitment. Locks are formed when uncombed hair tangles and mats into clusters. Once the hair starts to “lock” there is no reversing the style other than to cut the hair. The hair cannot be combed out or loosened apart. The 2 forms of locks are free-form and guided. Free-form locks are grown without ever combing, twisting, shaping, or brushing the hair. In Africa, hair is towel dried in circular motions so that the hair forms into tightly separated curls.<sup>8</sup> Guided locks have shapes that are predetermined with twist, braids, or hand rolls. The guided locks require regular grooming, twisting, and separating of new growth to maintain a neat appearance of the hair (Figure 6). There are several lock styles including free-form, 2-stranded twist, braided, hand rolls, beading, wrapping, and Sisterlocks™.<sup>8</sup>

### **Cleansing, Conditioning, and Daily Grooming**

African American hair does not become coated with sebum secretion as naturally as straight hair, which

results in dryness. Thus, shampooing is limited to once every one or 2 weeks. Many old wives tales suggest that frequent hair washing increases the risk of colds or pneumonia.<sup>2</sup> African American women with hair styled by weaves, relaxers, perms, and braids may shampoo even less frequently so their hair will not go back to its natural condition. The hair care products targeted to this population contain mild amphoteric detergents, detanglers, silicone-based materials, quaternary ammonium compounds, and cationic polymers that will not aggravate the scalp.<sup>3,9</sup>

In African American women, conditioners function to ease both wet and dry combing; to smooth, seal, and realign damaged areas; to provide protection against damaging thermal and mechanical procedures; and to impart sheen and a silky feel.<sup>3</sup> The conditioning agents formulated for African American hair are rich quaternary ammonium compounds that facilitate ease of wet combing and minimize hair damage.<sup>9</sup> Emollients (eg, mineral oils) or esters (eg, isopropyl myristate) are added to these conditioners to reduce hair dryness.<sup>3</sup> The actions of these formulations are enhanced when a plastic cap is placed on the head and the head is then placed under a warm dryer for 20 to 30 minutes.<sup>3</sup>

Copious amounts of oil-based pomades are used in African American hair. A practice commonly referred to as “greasing the scalp” is used to relieve dryness and dandruff. The hair is parted in sections and pomade is applied directly to the scalp. Greasing of the scalp can possibly promote or exacerbate seborrheic dermatitis and pomade acne. Pomades enhance hair manageability and provide sheen

while alleviating scalp dryness. Lighter emulsions of creams and lotions are replacing pomades, which are heavier, may contain lanolin, may be petrolatum based, and contain no water.<sup>3</sup>

### Comment

Ethnic hair care is a billion dollar industry.<sup>1,3</sup> The industry is devoted to the African American market, as well as to an international market that includes hair textures found in African, African Caribbean, and segments of South America and Middle Eastern populations. African American hair styling encompasses a mixture of aesthetic, borrowed, adapted, and reconfigured fashions from both African American and white cultures. The phenomenal growth in the market has been largely due to 2 factors: scientific innovations and hairstyle trends in African American women. These factors continue to spur the birth of new product categories.<sup>3</sup>

Madame C.J. Walker developed hair creams and preparations to induce hair growth and aid in hair straightening. Although she was not the first to conceive of the idea of hair straightening, she was responsible for catapulting the idea to unprecedented horizons.<sup>6</sup> Approximately 80% of African American women use chemicals to relax their hair.<sup>1</sup> Many salons overbook appointments and handle multiple clients simultaneously, often resulting in relaxing chemicals remaining on the hair longer than recommended. Side effects of these chemicals include scalp irritation, chemical burns, postinflammatory hypopigmentation/hyperpigmentation, hair breakage, trichoptilosis (split ends), and tangling (distal-acquired trichorrhexis nodosa). Cosmetologists are cautioned against using thermal irons on hair that is chemically straightened to avoid the resultant hair breakage.<sup>6</sup> However, thermal irons are commonly used on chemically straightened hair in salons and at home. Many African American women admit to applying thermal irons to the roots of the hair daily to reverse the effects of humidity and wetness from showering and bathing. This practice may result in hair breakage and alopecia in the bitemporal areas, which can cause the appearance of a receding hairline or mimic traction alopecia. It also may cause the hair to acquire a coarse dry texture, which decreases styling ability and leads to excessive breakage.

Swee et al<sup>10</sup> described an outbreak of alopecia from a highly acidic hair relaxing product. Patients from this outbreak experienced hair loss of up to 40% and other side effects including hair breakage, dry coarse hair, green hair, burning irritated scalp,



**Figure 6.** Locks require regular grooming, twisting, and separating of new growth. Once hair has locked, it cannot be reversed other than by cutting the hair.

and severe anxiety.<sup>10</sup> Patients presenting to our clinic with hair loss have reported multiple episodes of scalp irritation and burns after application of chemical relaxers. These patients rarely present initially to the dermatologist. The repetitive treatments and frequent scalp insults may contribute to hair and scalp disorders and ultimately alopecia including cicatricial alopecia.<sup>1</sup>

The resulting chemical and thermal damage to the hair of African American women has caused a surge in natural hairstyles such as braids, which became popular in the late 1960s and 1970s. Recently, cornrows, weaves, and braids with extensions have become popular hairstyles of African American entertainers. The natural or low-upkeep styles are encouraged by many because they allow a maintenance period during which daily trauma to the hair is minimal.<sup>11</sup> If not done properly, however, these styles can induce traction alopecia, traumatic alopecia, folliculitis, and hair breakage. We have observed that many women with weaved hairstyles cleanse their hair less frequently than their counterparts. Some patients go 3 to 4 months without shampooing their hair.

Confounding the problem of infrequent shampooing is the difficulty in obtaining a thorough cleansing of the scalp while the braids are in place.<sup>12</sup> This can result in a higher incidence of seborrheic dermatitis, bacterial folliculitis, and fungal infections of the scalp. Silverberg et al<sup>13</sup> described a high incidence of African American women with carrier-state tinea capitis and suggested that the decrease in shampooing inhibits spore removal. Emollients, pomades, and creams are used daily by African American women to combat hair dryness and damage from various straightening methods. Ingredients such as petrolatum, lanolin, and isopropyl myristate are highly implicated in pomade acne and can aggravate seborrheic dermatitis.<sup>8,13</sup>

We assert that there are historical and cultural ramifications of hair care in African American women that affect their self-image and their place in society. The rise in popularity of hair extensions and weaved styles among African American entertainers is a by-product of both a means of assimilation and a need to camouflage damage to the hair and scalp caused by straightening methods. This trend most likely will result in more cases of alopecia and in patients presenting with hair loss at earlier ages.

Hair density in the African American population is significantly lower than in the white population.<sup>14</sup> African American hair has been described as tightly curled, dry, and highly susceptible to breakage<sup>5</sup>; however, defining "normal" African American hair is more complex. Because the African American population is a heterogeneous group, its hair can be straight, curly, or a mixture of both.<sup>1</sup> This variability will increase with the rise of interracial marriages.<sup>4</sup> By introducing physicians to common hair care practices in African American women, we can promote an understanding of the culture of these women. This understanding can enhance treatment recommen-

dations and improve patient compliance with therapeutic interventions.

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