



AGING
OF

GLOBAL SKINS

AS THE BABY BOOMERS CONTINUE TO GET older, research shows that there is a direct correlation between increased aging and environmental stressors. A great amount of research has been done on the aging of skin types I, II and III. In all skin types, the two complexities distinguishing how the skin ages are related to chronological and environmental aging. These complexities are known as: intrinsic, a genetically programmed phenomenon; and extrinsic, or external aging, which is the result of exposure to the environmental elements, particularly artificial or natural ultraviolet (UV) rays. Each complexity affects the skin differently.

For skin types I to II, intrinsic aging happens over time. The epidermis becomes atrophic with the flattening of the dermoepidermal function. The dermis decreases in thickness and loses elastin fibers due to the decrease of fibroblast function, causing elastosis, dryness of the skin and loss of skin turgor. Ecchymotic lesions become prevalent due to atrophy of the dermis. These factors are uncontrollable, and are largely determined by heredity and genetics.

Extrinsic or external factors of aging are more easy to control, and generally are influenced by one's lifestyle habits, such as sun exposure, cigarette smoking and diet. Environmental elements—particularly artificial or natural ultraviolet (UV) rays, can manifest skin disorders such as dyschromias, senile lentiginos (age spots), degeneration of collagen, elastosis and actinic keratoses in skin types I to III.

The Glogau classification is based on the severity of sun damage, as well as the epidermal and dermal changes. This scale is more appropriate for Caucasian skin types, which are known to have advanced to severe photodamage. Clinical signs of photoaging of the skin include rhytids, lentiginos, keratoses, telangiectasia, sallow color, loss of translucency and elasticity. The Glogau

classification often facilitates the selection of treatment options in the aging Caucasian face. The advanced and severe clinical features are uncommon in deeply pigmented skin.

When it comes to pigmented skins, the evidence of melanin's reflective differences between ethnic groups and their respective environments is still inconclusive. These ethnic groups include people of African, Asian, Latino/Hispanic, Mediterranean, Indian and Arabic descent. The overall consensus is that individuals with skin of color show less severe facial aging when compared to lighter-skinned individuals.

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GROUP	CLINICAL FEATURES
I (Mild)	AGE: 20s-30s Early photoaging Mild dyschromias No keratoses Minimal wrinkling Minimal/no makeup
II (Moderate)	Age: Late 30s-40s Early senile lentiginos Dyschromias Early actinic keratoses Parallel smile lines Early wrinkling Some foundation worn
III (Advanced)	Age: 50s-60s Dyschromias, telangiectasias Visible keratoses Wrinkling at rest Always wears makeup
IV (Severe)	Age: 60-75 Actinic keratoses Prior skin cancer Wrinkling throughout Makeup cakes and cracks

Glogau classification chart

BY PAMELA SPRINGER

When comparing African descendants that settled in America and those who settled in the Caribbean, photoaging is more predominant in the African American skin types. The consensus is that African American skin types are racially mixed with Africans, Caucasians and Native Americans. This racial blending creates skins that are prone to photoaging.

The darker ethnic groups have a concentration of melanin content in the epidermis, therefore protecting the skin from UV rays. When compared with white skin, there is no evidence of elastosis or epidermal atrophy. The photoaging manifestation, however, is mottled facial pigmentation and texturally rough skin. In some cases, enlarged pores are evident, and they worsen over time. The large and active fibroblasts give a thicker density to the dermis, helping to decrease volume loss, thus reducing skin laxity.

As mentioned previously, photoaging is minimized in skin types IV to VI due to the photoprotective role of melanin. The protective factor (PF) in darker pigmented skin is 13.4, as compared to 3.4 for Caucasian skin. The UVB ray transmission into darker pigmented skin is reported to be 5.7 percent, compared to

29.4 percent into the epidermis of white skin. Transmission of the UVA rays in the epidermis of darker skin is 17.5 percent, compared to 55.5 percent in white skin. This concludes that three to four times more UVA rays reach the upper dermis in Caucasians than in darker skins. The site of filtration in Caucasian skin is in the stratum corneum, whereas in darker skins it is in the innermost layer of the epidermis.

In Asian culture, the standard of beauty is flawless skin, uniform color and texture. Two decades ago, an Asian female would not dream of going outside without an umbrella for protection against the sun. Members of today's younger Asian generation deliberately expose themselves to high doses of UV rays. Their quest is to emulate the Western culture. Noted signs of Asian skin include increased pigmentary lesions such as solar lentigines, seborrheic keratoses and melasma. Aging Asian skin types III and IV show mild wrinkling, with primarily pigmentary changes. These changes include actinic lentigines, textural alterations, flat, pigmented, seborrheic keratoses, dermatosis papulosa nigra and mottled hyperpigmentation. Melasma is more common in these skin types than it is in Caucasian skin.

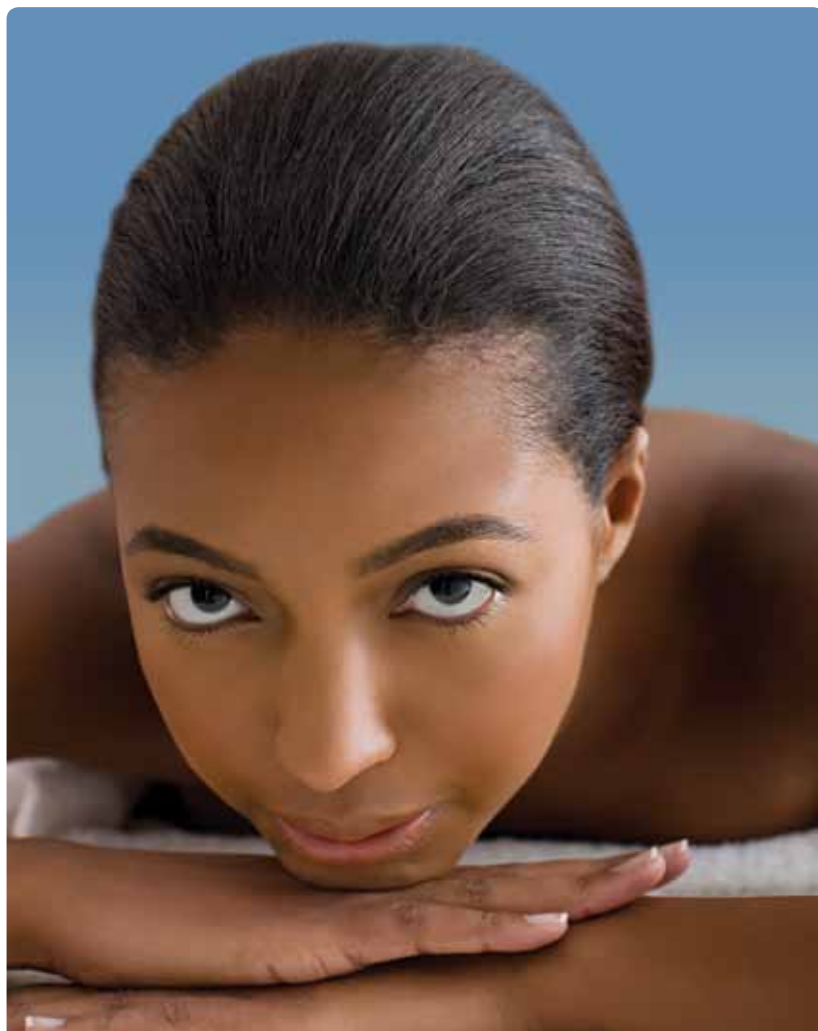
Photoaging is the third most common diagnosis in Hispanics. European or light-skinned Hispanics age to the same degree that Caucasians do. The primary manifestation for them is wrinkling, again appearing at the same age as it would for Caucasians. Less pigmentary changes are noted. Hispanic skin types IV and V who have lived in climates such as Mexico, Central and South America show photoaging similar to darker-skinned Asians and African-Americans. The manifested lesions are fine wrinkles, mottled pigmentation, dyschromias, textural changes, seborrheic keratoses and dermatosis papulosa nigra, seen in their 40s through their 60s. However these lesions are due to many years of occupational sun exposure.

Many of these manifestations could be avoided with the protection of sunscreen. Due to a lack of education, skin types IV through VI often choose not to use sunscreen. Studies have shown that the use of sunscreen is less prevalent among African American and Hispanic individuals than it is for Caucasians.

Following is a summary of useful topical ingredients that can reduce the appearance of the common anomalies seen in racially blended and darker skin tones.

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THE PROTECTIVE
FACTOR (PF)
IN DARKER
PIGMENTED
SKIN IS 13.4,
AS COMPARED
TO 3.4 FOR
CAUCASIAN SKIN.



Retinoids: Retinoids are vitamin A derivatives that are found to be very effective topical agents for the treatment of dyspigmentation, such as actinic lentigines, mottled hyperpigmentation and solar-induced melasma. The accumulation of visible damage is removed from the upper layer of the epidermis. Retinoids can also fade the excess pigment that accumulates in the lower layer of the epidermis. As an extra benefit, the appearance of fine lines and wrinkles is diminished.

Niacinamide: In a study to evaluate the effectiveness of niacinamide for reducing facial hyperpigmentation in Asian women, this agent significantly increased skin lightness after four weeks of use.

Vitamin C: Ascorbic acid has been shown to protect skin against sunburn and reduce UVB radiation induced skin wrinkling. Vitamin C formulations are typically non-irritating when applied, and have been shown to improve chloasma and post-inflammatory hyperpigmentation.

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Hydroquinone: Topical products containing hydroquinone are effective for treating melasma, post-inflammatory hyperpigmentation, lentigines and freckles. Common acute reactions are irritant and allergic contact dermatitis. Hypopigmentation may occur, but it is usually a temporary complication. These conditions are most often seen in African Americans who use products containing high concentrations of hydroquinone for long periods of time. However, such cases are rare in the United States. Hydroquinone 2% should be placed on the affected area for a maximum of three months.

Azelaic acid: Azelaic acid was initially used for the treatment of acne. It was later found to have an effect on the enzyme tyrosinase by suppressing the melanin production. Treating melasma and other hyperpigmentation problems with azelaic acid is a skin-lightening alternative. However, as opposed to hydroquinone, azelaic acid is not very effective against freckles and age spots.

Licorice extract: This compound inhibits melanin production by inhibiting tyrosinase activity.

Kojic acid: This is a natural occurring hydrophilic fungi derivative. Similar to hydroquinone, it suppresses the production of melanin by inhibiting the tyrosinase activity. Kojic acid can be unstable in some skin care formulations. It easily oxidizes on contact with air. Products containing kojic acid are generally found in amber bottles to prevent exposure to sunlight.

Arbutin: Arbutin clearly has pigmentation reducing effects. There is no clear evidence as to how well it stacks up against hydroquinone, though reports note that it has fewer side effects. Arbutin clearly appears to be a promising hydroquinone alternative, but more studies need to be done.

Chemical peels: Peeling agents improved the textural and pigmentary skin changes. Concentrations of 30 percent with a pH above 2.5 can reduce hyperpigmented lesions. To avoid complications, the initial pretreatment should be performed, including skin lightening agents such as hydroquinone, azelaic acid or kojic acid formulations two to four weeks prior to administering a chemical peeling agent. Any retinoid-based products should be discontinued one to two weeks prior to the peel to lessen the depth of the agent. ■

Pamela Springer is a licensed educator, speaker and author, and conducts monthly "Don't Be Afraid of the Dark" webinars on skin management programs for darker skins. She is the product developer for Global Skin Solutions, and founder of The Skin & Makeup Institute of Arizona and the Academy of Advanced Aesthetics and Permanent Cosmetics. Springer volunteers her time as the director of NASN for Arizona. She can be reached at info@pamelaspringer.com.

