

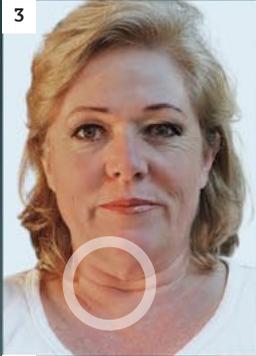
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It takes more than great genes to keep your skin looking good as you get older.

All those visible signs of aging that you hear about on cosmetics ads – the fine lines, pigmented spots and loss of skin tone – often have more to do with sun exposure than they do genetics.

# The *lowdown* on photoaging

By Lola Augustine Brown

**T**wo factors determine how our skin ages. First, there is chronologic aging, or aging caused by the natural passage of time and to some extent our genetics – and there isn't much you can do about that. Then there is photoaging, the aging of the skin caused by sun exposure – and there are ways to both prevent and treat this type of skin aging.

"Photoaging is often described as premature aging because of excess sun exposure, and it's usually responsible for the deep wrinkling, pre-cancerous

lesions, leathery appearance and dryness that you see on some people's skin," says London, Ontario dermatologist Dr. Denise Wexler. "With chronologic aging you won't get the same extremes, and consequently those who have had a lot of sun exposure will look older than their age."

## Prevention is Key

Although there are several ways that you can help improve your skin, there is no way to completely undo the effects of photoaging. What you can do is make sure that you prevent any further sun damage by wearing a hat, sun-protective clothing, sunglasses that have UVA and UVB protection (and preferably ones

that wrap around your face to protect as much of your eyes as possible) and, of course, sunscreen (one that is broad spectrum and at least SPF 30).

Although we all know that we should wear sunscreen, it isn't simply a case of applying a little bit at the beginning of the day and thinking you are protected. Wexler says that when applying sunscreen, the average adult needs to use two to three tablespoons of sunscreen, and they need to reapply it every two to three hours. "Especially if you are at the beach, in and out of the water, or doing a sports activity where you are sweating



*The deleterious effects of the sun are responsible for up to 90 per cent of skin aging. Pictured opposite, some early signs of photoaging include: (1) sun-related keratosis; (2) pigmented spots; (3) deep wrinkles; (4) freckles; (5) age spots; (6) solar lentigines.*

## Sunburn

### What is it? How do you treat it?

Sunburn is the skin's short-term response to ultraviolet (UV) radiation that penetrates the skin and harms the DNA within its cells. With repeated and unprotected exposure, the damage caused by UV radiation may result in sun-induced changes such as wrinkles, mottling of skin colour and skin cancer.

Signs of sunburn typically include redness and swelling, tenderness and/or irritation, skin that feels hot to the touch, and varying degrees of pain, which are all proportional in severity to both the duration and intensity of exposure. In severe cases, a person may experience blistering, second-degree burns, chills and fever, dehydration, electrolyte imbalances and/or a secondary infection.

Sunburn treatment aims to provide relief from discomfort. This can be achieved with the use of analgesics (painkillers), cool baths, aloe vera lotions and moisturizers.

## Hyperpigmentation

### What is it? How do you treat it?

Hyperpigmentation is the darkening of an area of skin or nails due to excess production of melanin caused by sun damage, inflammation or other skin injuries, including those related to acne. People with darker skin tones are more prone to hyperpigmentation.

Dermatological laser procedures can sometimes induce hyperpigmentation, which is why it is important to ensure the person performing these procedures is a physician, or working under the guidance of a physician, with a greater understanding of the skin, its structure and the implications of laser use on the skin.

To treat hyperpigmentation, a physician may prescribe hydroquinone, topical retinoids, topical corticosteroids, glycolic acid and other fruit acids, azelaic acid and L-ascorbic acid.

Skin resurfacing using chemical peels, laser, intense pulsed light (IPL) or dermabrasion may be effective, but unfortunately risks further damage to the epidermis and formation of more pigment. Cautious cryotherapy to small areas of post-inflammatory pigmentation can be effective but may potentially cause a permanent loss of pigment.



a lot, then you really need to reapply."

It is also important not to assume that because you are wearing sunscreen, you are totally protected and can stay out in the sun all day. "Seek shade," advises Wexler, "and avoid being out in the sun between 11 a.m. and 3 p.m., when the UV rays are strongest."

### Treating Photoaging

When it comes to repairing the damage done by the sun, a number of options are available. Usually the first course of action is to apply some sort of cream to the skin (known as a topical treatment). There are a huge number of creams available in drugstores that contain active ingredients that have been proven to reverse



### What's the difference between UVA and UVB?

"UVB is the shorter wavelength, and these rays burn the skin and are responsible for the development of photoaging and skin cancers. UVA penetrates a lot deeper, but these rays are deceiving because they don't burn the skin, but probably cause even more damage in terms of photoaging and melanoma development," says Wexler.

This means that even if you aren't visibly getting a sunburn, UVA can still be damaging your skin. "For example, if you are using a tanning light that only has UVA waves, you may not have visible sunburn, but you may still be at risk of damage."

While the effects of photoaging like the freckles pictured here cannot be completely undone, dermatologists can apply topical treatments and services to improve skin health.

photoaging in some way, and if you visit a dermatologist, you can also obtain prescription-strength creams that will have a much more noticeable impact. "The creams that are available over the counter are not thought to be as strong, but probably do have some effect," says Wexler.

Several different ingredients are used in these products. "Topically, retinol, vitamin C, glycolic acid, tretinoin and peptides like matrixyl are useful things one can apply to the skin," says Dr. Benjamin Barankin, a Toronto dermatologist and medical director of the Toronto Dermatology Centre. (In over-the-counter preparations, these ingredients may be listed under different names – for example, Retin-A is a form of tretinoin – or they may be listed as antioxidants.)

In basic terms, these creams work by lightening the skin and stimulating the creation of healthy new skin cells while preventing the build-up of dead cells. Photoaging breaks down collagen, the stuff that gives skin its strength and holds it taut, and these treatments help build up collagen in the skin.

Beyond using creams, other photoaging treatments can have a very positive effect and help reverse sun damage. "We can also perform treatments using lasers and light-based devices, as well as medical-grade chemical peels and microdermabrasion," explains Barankin. By consulting with a dermatologist, you can find out which course of action will best suit you and provide the best possible results.

"It is hard to completely undo the effects of photoaging, but the topical treatments and services that dermatologists use can definitely improve the skin significantly," says Barankin. "Going forward, the best anti-aging thing anyone can do is to minimize sun exposure and wear a good sunscreen properly." ■

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