



SKIN SCIENCES

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SUNSCREEN ALL YEAR ROUND

Summer may be over, but that doesn't mean you should shelve your sunscreen. In fact, The Skin Cancer Foundation recommends using a broad spectrum sunscreen year-round with an SPF15 or higher. Many doctors also recommend that sunscreen application becomes a daily habit, like brushing your teeth!

DID YOU KNOW?

Both UVA and UVB rays play different roles in damaging our skin. UVA has long been known to play a major part in skin aging (read: wrinkles) and researchers have recently found that it may initiate the development of skin cancers. UVA is present with relatively equal intensity during all daylight hours throughout the year, and can penetrate clouds and glass. These rays are also 20 times more abundant than their UVB counterparts, which are responsible for sunburn and are the leading cause of skin cancer. UVB rays can damage your skin year-round, especially at high altitudes and on reflective surfaces such as snow or ice.

SUNSCREEN OPTIONS

People have different needs when it comes to sunscreens, especially when it comes to protecting more sensitive areas like the face. EltaMD sunscreens offer both UVA and UVB protection with their high levels of zinc oxide (7-9%) and the line's lightweight formulas allow them to be easily integrated as a moisturizer in your daily skincare routine.

PRODUCT PICKS:

For normal to oily skin types: UV Défense SPF 45 (oil-free)

For normal to dry skin types: UV Daily SPF 40

For kids: UV Physical SPF 41 -- it's chemical-free and contains both zinc oxide and titanium dioxide for high protection.



SKIN SMART: HYPERPIGMENTATION

Hyperpigmentation affects a majority of the population and is caused by a process known as melanogenesis. In this issue of Skin Sciences, we explain what triggers melanogenesis and how to help correct and prevent this process.

The background: **Melanin** is the natural component of our skin that gives us pigment, thereby determining our skin tone. It is "manufactured" by cells called **melanocytes** within the basal layer of our epidermis. **Melanogenesis** is the result of the immune system triggering an inflammatory response to protect the skin from things like heat and injury. This response causes a darkening of the skin as a result of melanin production. Here's how the reaction works:



There are three main melanogenesis triggers:

- 1 UV rays, which skin gets from exposure to the sun, tanning beds and fluorescent lighting.
- 2 Fluctuations in hormone levels (such as pregnancy or menopause).
- 3 Surface irritation or abrasion of the epidermis from, for example, acne, dermatitis, psoriasis, ingrown hairs, eczema and bug bites.

There are also three steps to lifting hyperpigmentation:

1. INCREASE CELL TURNOVER.

Exfoliating skin treatments, like superficial chemical peels, gently bring pigment to the surface of the epidermis and trigger the production of new skin cells. In addition, using products with low levels of retinol - part of the

Vitamin A family - also helps cell turnover and is considered the most effective anti-aging ingredient.



2. INHIBIT TYROSINASE PRODUCTION.

Using topical inhibitors of the enzyme tyrosinase will help stop the chain reaction that ends in melanin deposit. Common tyrosinase-inhibiting ingredients include kojic, lactic, ascorbic and azelaic acids, as well as arbutin and licorice root extracts. These ingredients gently fade spots and even out skin tone.



3. PROTECT FROM FURTHER DAMAGE.

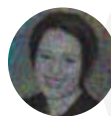
Everyone should use a broad-spectrum sunscreen (SPF25 or higher) on a daily basis on exposed skin. This is particularly important for those trying to rid themselves of hyperpigmentation because daily UV exposure slows the process of evening the complexion and can trigger new damage. It is even more important to wear sunscreen after a peel treatment and when using exfoliating ingredients, which make skin more sun-sensitive.

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IT'S "ALL NATURAL" BUT IS IT ALWAYS GOOD FOR YOU?

Many consumers believe that any "chemical" ingredient used in a cosmetic product is less safe or effective than its "natural" equivalent. Below we examine some common misconceptions regarding product formulation.



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MISCONCEPTION #1

Natural ingredients are much more effective than synthetics.

Since 1828, we have known that organic molecules can be synthesized from inorganic materials. This is known as the Wöhler synthesis. Molecules have no "memory" of where they come from, and their bioavailability and bioactivity are the same as naturals. Once in the body, they are degraded, altered and expelled (or accumulated if that is the case) the same way as a natural molecule. Let us illustrate this process using a common skin care ingredient: Vitamin C.

Whenever modern chemists create a molecule of Vitamin C, they don't make a man-made copy of Vitamin C; they make Vitamin C itself, the real Vitamin C, from the exact, unambiguous structure of the desired molecule. And according to every imaginable test, both in vitro and in vivo, the synthetic version behaves in precisely the same way as the naturally occurring molecule (this has been verified innumerable times over, since Wöhler's discovery in 1828).

MISCONCEPTION #2

Natural ingredients and products are always safe.

In fact, many naturally occurring chemicals can have harmful effects on humans or are very complex mixtures, while in some cases their synthetic counterparts may have the toxic component removed. The most toxic substances known to us are very natural: Clostridium botulinum toxin and Clostridium tetani, shellfish and fugu pufferfish toxins, Curare toxins, the toxins of common oleander, to name just the few. As well, natural products, just like synthetics, can cause allergy, skin irritation and/or sensitivities.

The fact that raw materials can be contaminated with pesticides and chemical fertilizers or that the manufacturing process may use harmful chemicals is often overlooked by consumers. A good example is the "natural preservative" glycinate (INCI: sodium hydroxymethyl glycinate) used by many "organic" skin care lines and described as "amino acid derived". It is actually produced by the reaction of the sodium salt of glycine with formaldehyde and is highly regulated in some foreign countries.

Comparing natural and synthetic ingredients can get a little complicated, so here are a few simple tips that a savvy consumer should take into account:

- 1 Ingredients should be pure and not contaminated by the manufacturing process, whether they come from a lab or a plant.
- 2 The safety of ingredients should be proven and tested by independent labs - be aware of manufacturers that offer "unique" and "revolutionary" exotic extracts since they might not submit them to rigorous testing.
- 3 A bio-available form of each ingredient should always be used - no matter where it comes from. It should have the capability to penetrate skin and produce the appropriate effect.
- 4 Think about the environment. Ingredients should not only be pure, safe and effective, but also environmentally friendly. Sometimes it is better to use a clean and cheap ingredient from the flask than to cut down acres of trees for a "unique" ingredient that has a similar effect.

WINK EVEN BIGGER!

ARE YOU ALREADY USING MD LASH AND WANT TO ENHANCE YOUR RESULTS?

Try these three tips to make your eyes stand out even more:

1. **Invest in an eyelash curler.** Curling your upper lashes will widen the appearance of your eyes and give your lashes an extra oomph.
2. **Try tinting.** For those who have lighter lashes, professional salon/spa tinting will

darken lashes to give a "mascara" effect.

3. **Learn some wand tricks.** When applying mascara, push the outer lashes towards the temples, the middle ones up towards the brows, and the inner lashes to the nose. This sunray effect drastically makes lashes look even longer.



BEST INVESTMENTS

"One product that I can't live without is Neova Hydro-Lac Lotion. A few nights per week I apply Neova Hydro-Lac to my feet, paying special attention to my heels and other dry spots, and then I slip on a pair of socks. The next morning my feet are so soft and smooth, like I just returned from a spa treatment. Hydro-Lac moisturizes and smoothes away rough skin and leaves my feet feeling great."

Karen, 54, Saskatoon



FOR MORE INFORMATION
PLEASE CONTACT YOUR
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