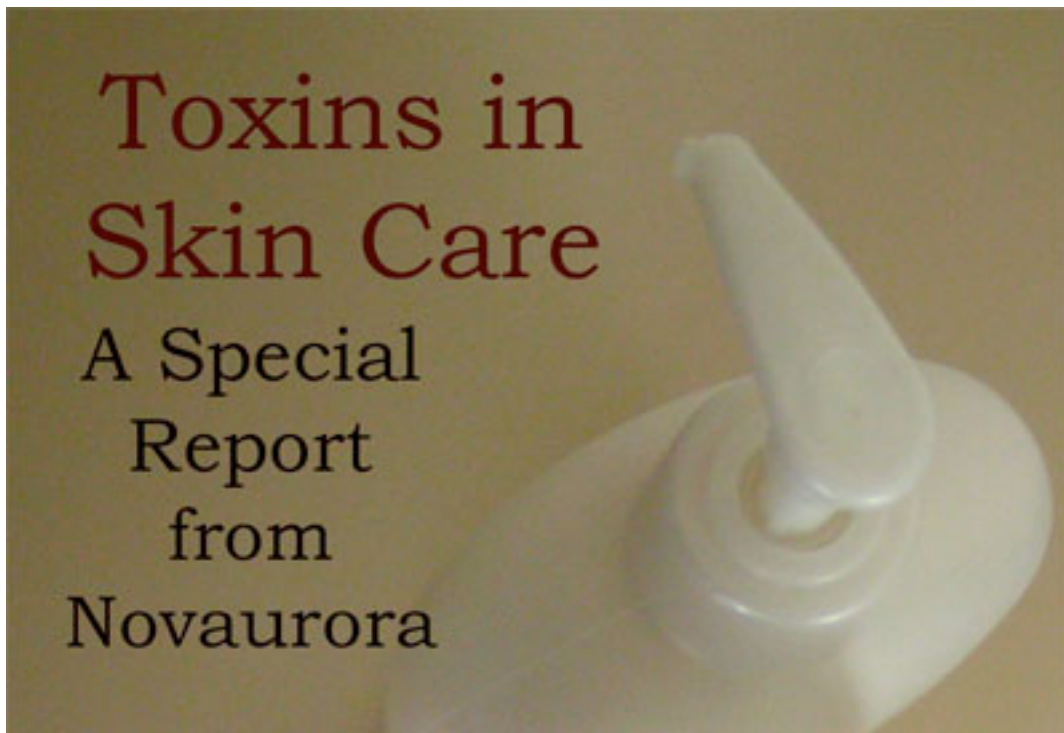


This is a Special Report on Toxins in Skin Care



Brought to you by Pamela Lambert of Novaurora

PART I:

A Close Look at Health & Beauty Aids, Part I

The skin is the largest organ of the body. It has been shown that 60% of what is applied to the skin enters the blood stream, so long as the skin is allowed to breathe. That fact has impact in at least four ways:

1. The skin is an important entryway for chemicals to the body.
2. Unwanted chemicals, such as those shown to contribute to cancer, birth defects, allergies, or other sensitivities, need to be avoided in products applied to the skin, as they may have a negative effect on the body as a whole.
3. The skin must be allowed to breathe in and out, in order to take in nutrients and release toxins.
4. When nutrients are applied to the skin, they may be beneficial to the entire body.

What common cosmetic ingredients are among the “unwanted chemicals?”

1. Mineral oils and petrolatum

Mineral oil is used in baby oil, baby creams, and baby lotions; it is the most popular moisturizing ingredient in commercial hand and body lotions, face creams, suntan creams, shaving creams, lipsticks, and all kinds of ointments and moisturizers.

Manufacturers like it because it is colorless, odorless, tasteless, very inexpensive, and readily binds other cosmetic ingredients into a smooth, creamy lotion. It softens skin by holding water in. Mineral oil is derived from petroleum and smells like petroleum when heated. It is a relative of petrolatum (petroleum jelly), also a petroleum derivative, which is thicker and semisolid. Untreated and mildly treated mineral oils are known to be a human carcinogen (see U.S. National Toxicology Program’s Tenth Report on Carcinogens). Mineral oil and petrolatum form an oily film over skin to lock in moisture, but trap in toxins and wastes and hinder normal skin respiration by keeping oxygen out.

Propylene glycol, another cosmetic form of mineral oil, is sometimes found in high concentrations (up to 50%) in baby lotions, pre- and after-shave lotions, moisturizers, foundation creams and mascaras, deodorants, lipsticks, and suntan lotions. Propylene glycol is a strong skin irritant that can cause liver abnormalities and kidney damage. According to Ruth Winter (A Consumer's Dictionary of Cosmetic Ingredients, 1999 ed.), propylene glycol's "use is being reduced, and it is being replaced by safer glycols such as butylene and polyethylene glycol" (p. 363). In the same edition of this book, Winter states that ingestion of butylene glycol may cause renal damage, kidney failure, and death (p. 99). Propylene glycol is widely used because it is an effective humectant which holds moisture in the skin, and it is inexpensive.

2. Parabens

Parabens come in many varieties and are the most widely used preservatives for health and beauty aids. Only water and propylene glycol are more common in cosmetics. You will find the parabens toward the end of the ingredients list, most often as butyl-, ethyl-, methyl-, or propylparaben. According to State of the Evidence 2004, published by the Breast Cancer Fund, parabens are "endocrine-disrupting compounds[1] used as preservatives in . . . cosmetics, food and pharmaceutical products. . . Parabens have been shown to have estrogenic activity[2] and have been found in breast tumors" (p. 59). Some researchers believe that parabens are also present in cosmetics preserved with citrus seed extracts; although the parabens are not listed on the ingredients labels, the citrus seeds themselves may have been sprayed with them or other preservatives prior to the extraction process, thus concentrating the preservative in the extract.

3. Phthalates

These chemicals rarely find their way onto an ingredients list, but they are present in many health and beauty products just the same. Wherever you see "perfume" or "fragrance," phthalates are present, because they are used to preserve these synthetic scents. Recent studies have shown that phthalates may be mutagenic, carcinogenic, and adversely affect male sperm, that they increase levels of testosterone and estrogen in humans, and are central to

breast cancer risk. They are an ingredient in nail polish and other lacquers, and in soft plastics (e.g., infant chew toys).

4. Sodium Lauryl Sulfate (SLS) and Sodium Laureth Sulfate (SLES)

SLS is well known as a common skin irritant which is rapidly absorbed and retained in eyes, brain, heart, and liver. SLS is the most widely used detergent and foaming agent in shampoos, cleansers, and toothpastes. Its cousin, SLES, has shown itself to be less irritating than SLS. We believe both these substances should be avoided, because of the possibility of their reacting with other product ingredients to form dioxins and nitrosamines.[3] “Dioxin is an endocrine (hormone) disrupting chemical linked to several types of cancer, birth defects, learning disabilities, infertility, endometriosis and suppression of the immune system” (State of the Evidence, p. 59). Nitrosamines are known for their carcinogenic properties. SLS and SLES should be especially avoided in baby shampoos.[4]

One or more of the above chemicals is present in the vast majority of personal care products found in the United States. The European Union is currently taking steps to disallow certain of these chemicals and others from sale within their borders. They are requiring that a potential carcinogen or endocrine disrupting compound be proven non-toxic before it may be used—the opposite of the U.S. policy, which requires proof of toxicity before a call for removal. Some well known American cosmetic companies are responding by changing the formulas of their cosmetics sold in Europe, but not in the U.S. or elsewhere.

There is another widely used category often added to cosmetics:

5. Sunscreens

To screen or not to screen? We know that UV exposure increases the risk of skin cancer and causes aging of the skin. Now, however, there is growing concern that some chemicals in conventional sunscreens are causing estrogenic activity and accumulating in fat tissue (are lipophilic) in wildlife and humans. They are also thought to retard the production of epidermal growth factor, which is needed to repair photo-damage and maintain healthy skin. We'll

address this further in Part III of this series. Meanwhile, be sure to wear a good hat.

What to do?

1. Read ingredients labels. If you avoid the above four, you will make a good start in eliminating the most common toxins. You may find other ingredients that you yourself are sensitive to and will want to avoid in the future.

2. Think twice before deciding to use cosmetic products containing known toxins. Do you need to dye your hair, use nail polish, colognes and perfumes?

3. Find a list of American cosmetics companies that have signed the pledge to remove known toxins from their U.S. products, not just those sold in the E.U. Patronize these companies; avoid the others. (See: www.EWG.org and the Campaign for Safe Cosmetics.)

4. Keep yourself informed of new studies as research is completed. We will refer to them in future newsletters, and by mid-August will have references and links on our web site.

5. Take an inventory of the toxins in your cosmetics cupboard and replace those products with healthy alternatives.

Read the next chapters in this series as they are issued:

Part II: Does Natural in Skin Care naturally mean Good? (Late-August 2005)

Part III: What Nutrients and Ingredients are Important for Healthy Skin? (Mid- to Late September 2005).

Suggestions for future articles and/or comments on this one are welcome via email.

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[1] “Chemicals . . . that disturb the body’s . . . hormonal (endocrine) balance. Any disruption in hormonal activity can interfere with an organism’s ability to grow, develop and function normally. . .

Prenatal exposure to these chemicals may interfere with development of the breast, predisposing it to cancer in adult life. These chemicals also may be linked to increased rates of testicular cancer in young men and birth defects . . .” (op. cit.)

[2] i.e., mimic the activity of the hormone estrogen

[3] This kind of synergistic toxicity (two or more otherwise benign ingredients combining to form a toxin) will be discussed further in a later article.

[4] There are conflicting opinions in the literature about the safety of SLS and SLES. Until these substances are proven to be safe, we see every reason to avoid them.

Continue to Part II of this series

PART II:

Does Natural in Skin Care naturally mean Good?

Although Webster defines “natural” as “not artificial, synthetic, [or] acquired by external means,” it is the rare cosmetic ingredient that fits that description. Even water used in cosmetics is generally distilled, deionized, or otherwise purified. All along the continuum of “natural” products, choices have been made to emulsify, stabilize and preserve—to make the products smooth and creamy, keep them fresh, and give them an acceptable shelf life. Even if consumers want products that need to be refrigerated, distributors and retailers will not order them because of the added costs of shipping, storing and greater liability. A growing number of consumers who seek that kind of freshness have been firing up their blenders and following recipes for homemade treatments.[1] Even these, however, call for essential oils, alcohol, glycerin, lanolin, etc., which are a long way from their natural origins. As reported in Strong Voices, the newsletter of the Breast Cancer Fund, “Approximately one-third of cosmetics and bodycare companies position their products as natural in one way or another . . . But, as

you might expect, some companies are more natural than others” (Volume 7, Summer 2005).

Most people who seek out “natural” products are looking for ingredients whose sources they recognize, and that is why many companies now list the source along with the scientific name of the ingredient, as in sodium laurel sulfate (from coconut), or lanolin (from wool). Turpentine comes from pine trees. My grandmother, born in 1901, swore that turpentine helped her arthritic hands, and she may have rubbed them with lard (from bacon) afterwards to keep them as soft as I remember. Perhaps lard and turpentine are “natural,” but are they good for the skin, and along with that, what is the definition of “good?” Again, there are no simple answers. If you have found this article through the Eco-Mall, it is safe to assume that you seek out skin care that

(1) is friendly to the environment (“eco-friendly”);

(2) does no harm to animals (commonly referred to as “cruelty-free”); and

(3) does no harm to the human body and ideally does good (is “body-friendly”).

Let us examine “natural” skin care in light of each of these issues.

Eco-Friendly

An issue rarely addressed by the cosmetic industry is whether products are environmentally friendly. The LA Times^[2] has reported that consumer products, including cosmetics, pump 100 tons of pollutants daily into southern California's air, second only to auto emissions. These pollutants come not just from the propellants in sprays and aerosols, but also from fluorocarbons, ethanol, butane, acetone, phenols and xylene. Here's how it works: These chemicals evaporate, and when the sun shines they combine with other pollutants to form ozone, a primary component of smog that can cause headaches, chest pain and loss of lung function. This happens outdoors and indoors, which can severely compromise the air quality in our homes and offices.

There is a class of chemicals called PPCPs (pharmaceutical and personal care products) that until recently have received relatively little attention as potential environmental pollutants. PPCPs comprise all drugs (prescription and over-the-counter), diagnostic agents (e.g., X-ray contrast media), nutraceuticals, and other chemicals, including fragrances, sunscreen agents, and skin anti-aging preparations. When phthalates, for example, get into rivers and lakes, they are known to affect the reproduction of aquatic species; and musk fragrances are known to bioaccumulate.[3] Skincare products may contain botanical ingredients grown with pesticides and chemical fertilizers that are not friendly to the environment, and some may use genetically modified plants in their botanical ingredients.

Cruelty-Free

“Cruelty-free” is generally understood to mean that the products are not tested on animals; sometimes also that there are no animal-derived ingredients in the products. Taken literally, this would imply the absence of lanolin (from wool), beeswax or honey, dairy products, etc. Some labels specifically state there are no animal ingredients.

Body-Friendly

We suggest four criteria for evaluating “body-friendly” skin care products:

- * Toxicity
- * Occlusiveness
- * Comedogenicity
- * Effectiveness

1. Toxicity

In our July article we discussed several ingredients which we prefer to avoid in skin care products. To recap, we listed mineral oils, petrolatum, propylene glycol, parabens, phthalates, SLS and SLES. We also called sunscreens into question.

Toxicity (to humans) of skin care ingredients may be divided into three distinct categories:[4]

- a. Carcinogenic, referring to ingredients contributing to cancer
- b. Endocrine-disrupting, which refers to chemicals that disturb the body's hormonal balance, and may interfere with its ability to grow, develop, or function normally. Endocrine disruptors may also be carcinogenic.
- c. Allergenic, irritating or sensitizing, meaning consumers may have allergic reactions or contact dermatitis (itching, redness, rash, etc.). Individuals with multiple chemical sensitivities may become very ill when exposed to certain of these chemicals.

There are many “natural” skincare companies who include parabens, SLES, and other of these ingredients in their products.

A general note about preservatives: By their very nature preservatives are toxic. They must be toxic to bacteria, molds and yeast to keep the products from spoiling. Another preservative that is gaining use as an alternative to parabens is diazolidinyl urea. This preservative has not been banned from use in Europe, although some authors claim it is carcinogenic because it is a formaldehyde donor. Although formaldehyde is a chemical which occurs naturally in the human body, formaldehyde in the gaseous state is a known carcinogen. From all studies we have read, diazolidinyl urea, when it forms formaldehyde, does not form formaldehyde gas. Nonetheless, when used in high enough concentrations, or even in low concentrations by persons who are especially sensitive to it, diazolidinyl urea—along with almost every other preservative—has been shown to cause contact dermatitis. There are also “natural” products who claim to use no preservative. Most of these contain grapefruit—or other citrus—seed oil extract. As mentioned in Part I of this series, cosmetic chemists I have spoken to insist that these citrus seeds would turn rancid if they were not sprayed with preservative; that that preservative is concentrated in the oil when it is extracted; that this preservative in the extract is what is actually preserving the skincare product; and that the preservative used is generally a paraben.

There are also skincare products that are sold in sealed containers with airless pumps or sprayers. Although it can add significantly to the cost of a product, this type of packaging and delivery is highly

desirable, as it keeps air and airborne contaminants out of the product and makes it possible to significantly decrease or even eliminate the use of preservative.

Of the large list of possible cosmetic ingredients, a relative few individually pose high risk, but many people use an array of products every day. It may be that these risks are adding up, or that single ingredients react with others to create toxic combinations, known as synergistic toxicity.

2. Occlusivity

The skin is the body's largest organ. The lungs breathe, and so does the skin, so to speak: The “breathing” skin provides an exit for toxins and chemicals—respiration in the form of perspiration. Lotions and salves that occlude this exit may initially soften the skin by keeping moisture from escaping, but may actually inhibit the overall health of the individual, besides weighing down the skin and causing it to sag and age. Nutrients applied to the skin that improve the skin's health may have a positive effect on the whole body, because they are absorbed into the bloodstream through the skin. When we choose body-friendly skin care, two important criteria come into play: that the products not be toxic to our skin or our bodies, and that they not be occlusive—allowing nutrients in and toxins out.[5] The bonus comes when the ingredients that are allowed in also bring the skin into balance and nourish it. This is the topic of Part III of our series of articles: What Nutrients and Ingredients are Important for Healthy Skin? (late September 2005). Here we address ingredients common to “natural” skin care that may be occlusive and/or comedogenic.

Look up “occlusivity” on the web and you will find hundreds of references to occlusivity and its benefits. The reason companies tout the benefits of occlusivity is that it holds water in the skin. When water can't escape, the skin stays soft and moist, and that sounds like a good thing. Imagine wrapping your skin with plastic wrap and wearing it around all day—an extreme example of occlusivity. Pretty soon it would start to stink in there as the toxins that usually escape with perspiration and generally evaporate into the air get trapped between the skin and the plastic. Now imagine that those same toxins can't leave the bloodstream because the skin's normal respiration is blocked. Where will they go? In some

cases, they fester under the skin and form deep-down blemishes; in extreme cases, where occlusive lotions are used all over the body for extended periods, they may deposit in the liver and add to the body's toxic load.

Sometimes it may be beneficial to use occlusive salves for a limited time. If you want to climb Mt. Everest, for example, or ski at high altitude where the air is thin and dry and you are close to the sun, it's a good idea to wear a lotion that holds the water in the skin. For babies with diaper rash, it's good to use a salve that keeps the water away from the skin! For most of us, these are not constant conditions, and treatments that hold water in over time are undesirable.

Standard cosmetics experts may disagree with this reasoning. Paula Begoun in *Don't Go to the Cosmetics Counter Without Me* (5th ed., 2001) states: "According to many 'natural' cosmetics companies, mineral oil (and petrolatum) comes from crude oil (petroleum), is used in industry as a metal-cutting fluid, and therefore can harm the skin by forming an oil film and suffocating it. . . . This foolish, recurring misinformation about mineral oil and petrolatum is maddening. After all, crude oil is as natural as any other earth-derived substance. . . Mineral oil and petrolatum . . . can keep air off the skin to some extent, but . . . it doesn't suffocate the skin!" (pp. 11-13). She also states that antiperspirants "cannot absorb into the skin . . ." (p. 14). I maintain that anything rubbed onto the skin will be absorbed, as long as the molecules are small enough to pass through the skin membrane; this is how patches work to deliver medication. Although Begoun makes a good point that crude oil is "natural," I believe in making educated choices of which earth-derived substances we apply to the skin, and crude oil is not on my list.

It should be noted that there are degrees of occlusivity: If an ingredient is occlusive when used by itself, it will be less so when used in combination with non-occlusive ingredients. A small amount of beeswax used to emulsify jojoba and water will be far less occlusive than rubbing beeswax alone onto the skin. With that in mind, besides mineral oil and petrolatum, here are some of the more common occlusive ingredients found in "natural" skin care:

- a. beeswax and other waxes

- b. castor oil
- c. cocoa butter
- d. dimethicone
- e. honey
- f. lanolin
- g. sunflower oil and other vegetable oils

3. Comedogenicity

Unlike occlusive oils like mineral and sunflower oil, which do not penetrate, comedogenicity refers to the tendency of a substance to get into the skin's pores and clog them. This is especially bothersome in face care products, where clogged pores may lead to acne and blackheads. The word comedo is the medical term for blackhead, so comedo+genic means "friendly to blackheads." Some cosmetic-ingredient glossaries equate "non-comedogenic" with "non-occlusive," but that is a misunderstanding; while beeswax, mineral oil and zinc oxide (among others) are known to be occlusive, they are non-comedogenic. This is because they lie on top of the skin and do not penetrate. Others, like sunflower oil, may be both occlusive and (somewhat) comedogenic. Below is a list of the relative comedogenicity of some common "natural" cosmetic ingredients[6] (source: www.geocities.com):

Very Comedogenic

Somewhat Comedogenic

Not Comedogenic

Capric/caprylic triglyceride

Anhydrous lanolin

Allantoin

Cocoa butter

Avocado oil

Beeswax

Lanolic acid

Capric & caprylic acid

Cyclomethicone & Dimethicone

Linseed oil

Castor oil

Ethanol

Olive oil

Coconut oil

Glycerin

Peach kernal oil

Corn oil

Jjoba

Sweet almond oil

Grape seed oil

Kaolin (clay)

Glyceryl stearate

Mineral oil (USP)

Hexylene glycol

Oxybenzone

Lanolin alcohol & oil

Panthenol

Mineral oil, cosmetic grade

Petrolatum (USP)

Mink oil

Polysorbates

Peanut oil

Propylene glycol

Safflower oil

SD alcohol

Sesame oil

Sodium hyaluronate

Sunflower oil

Sodium PCA

Tocopherol (vitamin E)

Sorbitol

Squalane

Titanium dioxide

Waxes

“Note: Even somewhat or very comedogenic ingredients can be present in non-comedogenic formulas when used at percentages low enough that the end formula won't clog pores” (ibid.). The important point is to look at their relative position in the ingredients list. If a comedogenic ingredient is toward the top, then it is probably present in a quantity large enough to clog pores. Unfortunately it is impossible from the ingredients list to know whether for example ingredient #5 represents 20% of the formula or 2%. Thus we need to be able to trust the manufacturer when the label states “non-comedogenic.”

4. Effectiveness

Let us assume that every skincare company's raison d'être (before or after the profit motive) is to create products that make the skin feel and look good, and that probably means it's soft and not dry. Add some additional goals--anti-aging, anti-acne, skin-smoothing--and you've covered most of the bases. Most skincare products, "natural" or otherwise, achieve these goals by using occlusive ingredients that hold moisture in and keep the skin soft and "plump."

If, however, we are looking for the beauty of overall glowing good health in the skin, we need to ask for more than this from our skin care. We agree with Charles DePrince, president of GoForLife Labs, who states:

"The idea of 'natural' could mean a product containing all natural ingredients; however, I believe there should be a more significant meaning to the idea. I think the natural course to attaining beauty is a healthier and potentially more lasting one than with the use of harsh or radical treatments such as Botox, face lifts and peeling. The 'natural' idea would be to support the living and natural cells of our skin with nutrients that could support such things as the body's natural ability to retain moisture, to support natural collagen development, or to reduce hyperpigmentation. This way, by supporting the natural health of the skin, I believe the cumulative effect would be to develop healthier skin as both the path to and result of beauty." [7]

In the third and final article of this series, to be published in late September, we will discuss skincare ingredients that work from the inside out to support and nourish the skin, bring it into balance, and keep it healthy and young-looking. Meanwhile, we recommend as a minimum that skincare products be non-toxic, non-occlusive, non-comedogenic, and soften and moisturize. [8] We also recommend using fewer products, and avoiding synthetic fragrances and perfumes. Become an avid reader of ingredients labels!

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[1] See, among others, Katie Spiers, Recipes for Natural Beauty, Facts on File, Inc., 1998.

2“Chemicals in Home a Big Smog Source,” LA Times, Sunday, March 9, 2003, p. B9.

3 Source: www.epa.gov/nertlesd1/chemistry/pharma/

4 Mineral oils in their untreated and mildly treated forms are known to be a human carcinogen; propylene glycol is a strong skin irritant that can cause liver and kidney abnormalities; parabens and phthalates are endocrine-disrupting compounds which may be carcinogenic; parabens and other preservatives may cause contact dermatitis; SLS is a skin irritant; SLS and SLES may combine with other ingredients to form dioxin, an endocrine-disruptor and carcinogen.

5 In Part I of this series, we addressed toxins common to skin care.

6 Extracted from www.geocities.com, search: Comedogenicity.

7 SPA 20/20, May/June 2005, p. 32.

8 We have not made allowances for people with specific allergies or multiple chemical sensitivities.

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Continue to Part III of this series

PART III:

Natural Beauty: Only Skin Deep?

Whoever said “beauty is only skin deep” was a superficial person. True beauty comes from the light in the eyes, a natural smile on the face, and the glow of good health that shines through the skin, regardless of age.

How do we achieve the true beauty that comes from the inside? Certainly not through skin peels, face lifts and botox injections! No matter how much we spend on that kind of procedure, we cannot erase the effects of stress, overwork, sleep deprivation, poor diet, exposure to toxins, and (yes!) unhappiness that show in our faces and mask our natural beauty.

There are a few simple things that everyone can do to contribute to their true beauty.

1. Rest

Dark circles under the eyes, the drowsy, “grumpy” look that accompanies lack of rest, and the added stress of getting through the day after a poor night’s sleep detract from our natural beauty. It’s an old rule of thumb that everyone needs eight hours of sleep. We agree, but realize many people are unable to achieve that, and that even eight hours may be insufficient if it is poor quality sleep. The increasing numbers of ads for sleep aids and better beds attest to this. Here are a few hints for a better night’s sleep:

1. Set aside the last 30–60 minutes before retiring as “quiet time.”
2. Avoid sugar, caffeine, and alcohol for at least an hour before bed. It’s also hard to sleep on a full stomach. Or:
3. Soak 30 minutes or more in a hot bath with at least one cup Epsom salts. Drink water and put a tablespoon of safflower or sunflower oil in the water, to counteract the drying effects of the salts.

2. Exercise

There are a few simple practices that almost everyone can fit into the day, will increase energy and the sense of well being, and make us feel and look more beautiful:

1. Spend at least 20 minutes each day outdoors. We need fresh air and Vitamin D (from sunlight).
2. Yoga or even simple stretching will keep us supple, injury-free, looking and feeling young. Two minutes a day can begin to increase blood flow and ease tension so we feel and look better almost effortlessly.
3. Any kind of exercise that raises the heart rate^[1] is beneficial to the body and the skin.
4. Perspiration is important for eliminating toxins, through exercise, a steamroom, sauna, hot tub, or hot bath. A steam bath for the face can cleanse pores and stimulate blood flow, adding natural color and beauty.

3. Peace of mind

Joyful, happy, self-confident, clear-headed, centered—inner states that contribute to outward beauty. Yoga, meditation, and meditative prayer open doors to these states. Our favorite practice: Cultivating a conscious attitude of thankfulness. Picture the beauty in the face of a person who is truly grateful!

4. Avoid toxic exposure

Protect yourself from sun (overexposure to sun is the quickest path to premature aging of the skin!), wind and airborne pollutants. Avoid toxins in personal care products[2] and minimize the numbers of these products you use. Reduce over-the-counter and prescription medications to what is absolutely necessary for your health. These things accumulate in our bodies, sometimes combine to become toxic (synergistic toxicity), and increase our body's toxic load. We are most beautiful when we are healthy and happy.

5. Nutrition

1. Food

A balanced diet of fresh fruits and vegetables, lean protein, essential fatty acids, and complex carbohydrates--low in saturated fats and simple carbohydrates--is the best possible nutrition for the skin.

2. Drink

* Drink water! The skin cannot be soft and supple unless the body is well hydrated. Water is also needed to flush toxins from the body and the skin. Often eight glasses of water a day is the first best remedy for teenage acne.

* Avoid soft drinks! Carbonation, sugar and artificial sweeteners contribute to teenage skin problems and negatively affect skin texture and color.

* Alcohol in moderation! Alcohol is a refined sugar and a toxin.

3. Vitamins and supplements

* Essential fatty acids, Omega-3, -6, and-9, are essential to healthy, beautiful skin. Acne, seborrhea, dry dermatitis and redness, eczema, chronic "gooseflesh" skin, frequent infections, and poor wound healing are known symptoms of EFA deficiency.

* Antioxidant vitamins A, C and E are important for healthy skin.

* People who take MSM (methylsulfonylmethane) for pain disorders report softer skin, improved acne, stronger nails and thicker hair.

6. Body-friendly skin care

Ideal skincare products are “body-friendly.” By this we mean they contain ingredients that are non-toxic, non-occlusive, non-comedogenic, soften and moisturize and support and nourish the skin, bring it into balance, and keep it healthy and young-looking. In the previous two articles, we discussed toxicity, occlusivity and comedogenicity.[3] Now let’s look at ingredients that nourish the skin, support its moisture-retaining ability, support collagen and elastin production, and improve its color and texture.

1. Aloe Vera

For centuries aloe vera has been applied successfully to stimulate healing of wounds and regenerate cell growth. Most processed aloe contains only a fraction of the bioactivity of the fresh aloe vera juice, but highest quality aloe activates and stabilizes its biological activities, resulting in maximum immune stimulation and wound healing.

2. Antioxidants

Antioxidants are chemicals that protect cells by neutralizing external forces (such as damage from the sun, pollution, wind, and temperature) and internal factors (stress, poor metabolism, etc.). Common antioxidants are Vitamins A, C and E. These special chemicals assist in skin repair and the strengthening of blood vessels.

3. Beta-Glucan, an immune-stimulant composed of glucose molecules, activates the body’s own ability to heal wounds and produce epidermal growth factor (EGF). EGF, which normally lessens as we age, stimulates the production of collagen and elastin, thus improving the skin’s appearance and diminishing fine lines and wrinkles.

4. Hyaluronic acid, which occurs naturally in the skin, softens, hydrates and moisturizes skin and stimulates the immune system.

5. Jojoba, a non-occlusive and non-comedogenic liquid wax, penetrates the skin’s lipid layer, leaving a soft and non-greasy sensation, slowing down the loss of moisture and improving flexibility and elasticity. Jojoba is a natural antioxidant.

6. Konjac glucomannan, a starch best known as an Asian food thickener, is a skin conditioner and cosmetic thickener. In clinical tests konjac has surpassed all other ingredients in skin-smoothing, which is important for reducing pock marks, wrinkles and fine lines. It is second only to hyaluronic acid in skin-softening.

7. Shea Butter

Clinical tests have shown that shea butter improves the skin's color and texture, combats skin thinning with age, and visibly diminishes wrinkles from photoaging (from prolonged sun exposure).

8. Sodium PCA (also NaPCA) is a component of human skin responsible for binding and retaining moisture to cells.

9. Squalane is an oil-like substance found in human skin. Most cosmetic squalane is petroleum-based, but it may also be derived from olive oil. It softens the skin, reduces small facial wrinkles and is a bactericidal agent. Squalane has also been shown to speed wound healing.

In summary, to achieve natural beauty we need to eat well and supplement with vitamins and nutrients, rest well, exercise to increase blood flow, drink plenty of water, avoid toxins, cultivate peace of mind, and use body-friendly skin care to protect, stimulate and nourish the skin.

[1]If you're not already aerobically fit, be sure to check with your physician and follow recommended optimum heart rate ranges for your age.

[2] See articles.

[3] See articles

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