Today's "baby boomer" generation wants to look good and age gracefully, without suffering from the same debilitating and chronic conditions as their parents. Yes, you can age with vitality! We all age over time, but the rate at which we age is a choice. Good health slows the aging process, causing one to feel and look younger. Poor diets, toxic exposures, stress, and lack of exercise all conspire to "age" a human body beyond its years. That's why aging, as most of us experience it, relates more to disease than chronology. Very simply, a healthy body will maintain healthy, youthful skin.

The Skin as a Barometer

The skin acts like a barometer for the body, revealing much about overall health. You may not think of your skin as an organ, but in fact it is the largest organ you have. It is also one of the most essential. When intact, skin provides a nearly germ proof barrier to protect us against microorganisms and it also prevents moisture loss. Body temperature is regulated by blood flow through the skin - vessels dilating and constricting with changing external conditions. Skin has sensory preceptors that give us information about our environment. Skin also contains millions of sweat and oil glands, which eliminate toxins while helping to keep the body cool and the skin moist.

Healthy skin reflects a properly functioning organ. The skin of an unhealthy person often portrays the effects of poor diet, toxic exposures, stress, or lack of exercise. Skin cells are replaced monthly. If each skin cell is replaced with a healthy cell, the skin will always look and be healthy. When the body is deficient in the raw materials required for new cell construction, or poisoned by toxic exposure, it undergoes more cell damage than it can repair. When this happens, the outward appearance is that of "aging."

External creams and treatments are useful and have their place, but true beauty comes from the inside out. (Regardless of what kind of "beauty" we're talking about!) If the body is working properly, every organ, including the skin, will also work properly. Wrinkles, blemishes, premature aging, and skin cancer are all symptoms of underlying metabolic mal-function that is affecting the entire body...not just the skin!

Unhealthy Americans

To be healthy, the human body needs a precise mixture of all 59 known essential nutrients plus a bunch of others we don't even know about yet. Modern, processed-food diets are so nutritionally deficient, that almost no one is getting all the essential nutrients on a consistent basis. Numerous studies show that Americans are chronically deficient in multiple nutrients. Some examples:
• The U.S. Department of Agriculture sponsored a study of 10 common vitamins and minerals, utilizing 21,500 people. The study concluded that not a single person was getting the RDA for all 10 on a daily basis.
• The *Journal of the American Dietetic Association* found that 75% of Americans fail to get the recommended daily allowance for copper.
• The RDA for vitamin E is 30 IU. The average American gets only 9 IU.
• Dr. Denham Harman of the University of Nebraska Medical School says, "Some 90% of the population consumes diets deficient in zinc."
• A study in the *Journal of the American College of Nutrition* found that a typical American diet provides less than two thirds the RDA for magnesium.
• To make matters worse, the RDA provides requirements for mere survival. Optimal health requires at least several times the RDA!

**Choosing Health - The Health Equation**

Consider health as an equation: \( \text{Level of Health} = \text{Nutrition} + \text{Exercise} - \text{Toxins} - \text{Stress} \). You can change your level of health and the appearance of your skin by improving the variables in this equation. Let's look at each of them:

**Nutrition**

The hunter-gatherers, our biological ancestors, did not eat spaghetti, nor did they microwave frozen vegetables. In our industrialized society, with its highly processed foods, it becomes very difficult to get all the essential nutrients we need for good health. Here are the nutritional fundamentals needed for good health:

*Avoid processed food* - Processing can include heating, freezing, refining and grinding foods. Essential nutrients required for cell construction and repair are lost during processing. This means avoiding packaged foods as well as products containing sugar, white flour, hydrogenated and processed oils, milk, and dairy products. These are low quality foods prevalent throughout American diets today. Low quality foods fill our bellies with empty calories while providing a multitude of toxic side effects. Don't eat them.

*Eat fresh!* - Fresh foods, in the form that nature provides them to us, are absolutely essential. Harvesting ripe food and eating it shortly thereafter is ideal. Each step away from this natural hunter/gatherer process decreases nutritional value. Foods picked green and then ripened, or processed and stored are misconceived as healthy foods.

*Drink your water* - Fluid deficiencies cause upsets in electrolyte balance, and can send body chemistry into chaos. Water aids in blood circulation and toxic elimination, directly affecting skin complexion and appearance. Water is an essential nutrient. Try to drink 8-8oz glasses per day.

*Essential Fatty Acids* (EFA's) are a must - Without a very specialized diet, obtaining adequate EFA's is impossible. As a result, up to 90% of the American population may be deficient in
essential fatty acids. Fats are essential to cell structure, but they must be the right kinds of fats. Barleans Flaxseed Oil and Udo's Choice make excellent daily supplements.

Antioxidant chemicals are essential - A recent study in *Free Radical Biological Medicine* found that ozone in urban environments significantly reduces the amount of antioxidant vitamins in the epidermis, leading to measurable free radical skin damage. A study at the Anderson Cancer Center of the University of Texas found a 70% drop in skin cancer risk simply by taking a daily vitamin E dose of more than 100 I.U., and a 90% drop in skin cancer risk by taking 5000 I.U. of beta-carotene. Skin damage is prevalent in cities where we have constant exposure to toxins such air and water pollutants. Because these toxins are nearly unavoidable, it is important to get adequate amounts of antioxidants such as vitamins A, C, & E, as well as carotenes and selenium. To do this, eat a diet rich in fresh fruits and vegetables, accompanied by high quality supplements such as the Beyond Health vitamin brand.

**Exercise**

Exercise is another way to affect your health equation. Genetically speaking, our bodies were designed when humans were physically active, so it follows that our physiology is dependent on such activity for proper function. Physical activity is an essential element to youth and vitality. Regular exercise can actually prevent and reverse many of the effects of aging. Consider that elderly people who exercise improve their life expectancy by an average of ten years. One study found that people who walked for 30 minutes a day, six times a week achieved almost the same health benefits as people who ran 30 to 40 miles a week. Exercise promotes healing, waste elimination, and new skin growth. Physical activity increases the production of collagen in the skin, thereby improving its elasticity...keeping it "young." The body must be given the proper nutrients, as well as proper activity to function at an optimum level.

**Toxins**

Cells need an adequate supply of nutrients on a daily basis, to comply with the first part of the health equation. The body must also be protected from toxins, as they too can interfere with proper cellular function. Americans fail to protect themselves from the toxic exposure that their lifestyle generates. While many toxins are unavoidable, such as in the air we breathe, it is surprising how many toxins people voluntarily, if unknowingly, administer to themselves. For instance, processed foods contain dozens of toxins including artificial colors, flavors, and preservatives. Many FDA approved products; such as soaps, shampoos, skin creams, and toothpastes, contain known toxins. Often these products are loaded with chemicals that penetrate through skin and mucus membranes, accumulate in our tissues, and cause cellular malfunction. Some examples:

- Most toothpaste and many personal care products contain sodium lauryl sulfate, which bioaccumulates in eye, heart, and liver tissue, and is known to cause gum disease.
- A recent study found that 13% of the preservative butylated hydroxytoluene (BHT) found in cosmetics goes right through the skin and is absorbed into body tissues.
Other common toxins include various parabens, such as methyl paraben, as well as a multitude of synthetic colors and fragrances.

Some of these chemicals react with other ingredients in a product to form carcinogenic nitrosamines.

Environmental toxins can have a huge effect on your health equation. Use only those products that are completely natural. Avoid products containing synthetic chemicals, and generally decrease your amount of toxic exposure.

**Stress**

Living in a modern urban environment is like living in a big stress machine. When the body is stressed, the adrenal glands release hormones (stress chemicals) called glucocorticoids. While these hormones are designed to help us through a specific stress event, chronic stress can precipitate a host of destructive processes. These include immune suppression, hypertension, muscle wasting, fatigue, impaired mental function, fluid retention, and thinning of the skin. Equally important to avoiding external toxins, we must avoid stress-chemical toxins which will damage your health and cause you to age faster.

Stress chemicals reduce blood supply to the skin and also slow down the body's normal repair processes. This deprives the skin of needed nutrients and causes cells in the basal layer of the epidermis to divide more slowly. The skin doesn't renew itself as quickly, wounds don't heal as quickly - essentially the skin is "older." Stress also inhibits the immune function of the skin thus increasing the opportunity for infection.

Modern life is full of unavoidable external stressors, and the way we respond to these events is what matters. In fact, how you choose to respond to a stress event makes all the difference, and new ways of responding can be learned. Many people find techniques such as breath control, meditation, and yoga helpful in keeping stress levels down on a daily basis. The bottom line is that stress creates toxins, which must be avoided for health reasons.

**Conclusion**

Skin shows our level of health, affecting how we appear to others. Choices we make, regarding our health equation, directly affect how we look - healthy or otherwise. To be healthy, we must give the body what it needs, and protect it from toxins. Provided that these simple requirements are met, a body will deliver a life filled with youth and vitality. If not, it will fail catastrophically - aging and debilitating along the way. It is clear that diet, exercise, toxins and stress all have profound effects on our health. That's why we all need to educate ourselves on how to choose health. How we manage our health equation can keep us sick and aging, or healthy and beautiful. The choice is yours.

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