

# Aging Skin

Because one of the aims of the cosmetic industry is to maintain your skin's youthful appearance, treatments that reverse the signs of aging are significant. The skin undergoes a number of changes with age that have a profound effect on the function of this organ.

The major changes involve loss of elasticity, failure of the protective barrier function as well as a predisposition to skin cancer. The effects of aging on skin function does not just affect the elderly, it can start from the age of 30 or even younger.

The formation of rhytides (wrinkles) is considered the most conspicuous and common manifestation of aging skin. Wrinkles appear as a result of changes in the lower, dermal layers of the skin. Aging skin is characterized not only by the gradual appearance of wrinkles and fine lines, but also dryness, itchiness, areas of hyperpigmentation (called age or liver spots), a mottled appearance with skin, depigmented lesions (guttate hypomelanosis), sagging and loss of elasticity. The skin may take more time to heal when injured. Blood vessels are more visible due to the overall thinning of skin, also because the vessels become dilated with age. These blood vessels may be visible as red dome-like formations on the skin (cherry angiomas), or as broken capillaries on the face (telangiectasias).

The majority of the changes are due to cumulative, excessive exposure to the sun during the person's life time. More-over, sun exposure is believed to account for 80% of facial aging.

Some of the features of photo damaged skin differs depending on the individual's skin type. Sun induced cutaneous (*affecting the skin*) changes vary considerably among individuals, undoubtedly reflecting inherent differences in vulnerability and repair capacity to the solar insult. Even among Caucasians the gross appearance of photo damaged skin of individuals with the same skin type, often differs.

Dermatologists are interested in increasing their business through office treatments using peels, lasers, Botox (*or botulinium toxin*), fillers and dermabrasion techniques. In order to provide beneficial treatments, it is important that dermatologists, pharmacologists and chemists maintain a fundamental understanding of the mechanisms and pathophysiology of aging of skin and how aging affects skin structure and biochemistry.

**Aging also compromises the skin's immune response, partly through a reduction in the number of immune cells in the skin. UV radiation is well known to suppress the immune system and aging tends to decrease ground substances (glycosaminoglycans and proteoglycans). Since glycosaminoglycans (GAGs) bind water in the skin, it is not clear what the effect of altering these levels has on aged skin.**

Sun damaged, aged skin is characterized by severe elastosis. This phenomenon leaves

the skin more susceptible to damage by trauma and radiation.

With aging, alterations occur in the appendages. These include depigmentation of hair, loss of hair, conversion of terminal to vellus hair, abnormal nail plates and fewer glands. UV irradiation further causes immunosuppression in humans. It has been noted that the UV-induced immunosuppression is a risk factor for skin cancer.

Evidence is mounting that vitamin D is vital as a natural chemopreventive, decreasing the incidence of secondary tumors. Therefore, since staying out of the sun is even more important for aging skin. Using a Vitamin D supplement, maybe year round is the alternative. Since the role of nutrition in cutaneous aging skin is important, it should be taken daily. Nutritionals are recommended since the latest information concerning the role of vitamins and their value in treating aging skin is overwhelming. This means the consumer needs to also find skin care products that offer more than just minuscule amounts of vitamin content that has been included just for advertising purposes. The consumer needs products based on nutrition for skin.

The goal is to stimulate researcher's and corporation's interest in dermatological and cosmetic treatments for problems of aging skin. They also need to be directed to potential future therapeutic opportunities for the treatment and prevention of cutaneous aging that might plausibly be more effective than current concepts and products.

Although the trend to all natural is popular among the consumers, the products do not always carry the science that is required to address the actual issues of the skin. Those issues are not necessarily available through natural ingredients alone. Because skin issues of years past are not what the consumer deals with today, technology needs to meet the demands of today's problems. The techniques to instrumentally assess the barrier damage of aging skin, is an ongoing significant effort by today's bioengineers.

Skin continues to age and grow, even in the few minutes it took to read this document. No one should wait until tomorrow or when they see their first wrinkle to help their skin to be as healthy and beautiful as they expect it to be now and later. Remember: tomorrows so very quickly become lost yesterdays.

For more information on your skin and skin issues read:

***Your Skin & You, 5<sup>th</sup> Edition.***

***Available at:***

([www.yourskinandyou.net](http://www.yourskinandyou.net))