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Panorama of Plastic Surgery

Facial Rejuvenation: Prevention and Treatment of Sun Damaged Skin

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What causes facial aging? What can we do to prevent facial aging, and once established how the damage from facial aging can be corrected?

Facial aging is a result of a combination of factors, many of which are avoided with some awareness and preventive measures. A largely preventable cause of facial aging is called photoaging, or damage from sun exposure. Even if you are not a sun worshipper, cumulative exposure to sun over a lifetime can take its toll. The once pink and fresh quality of the skin turns more yellow and sallow appearing, just as fabric on your furniture that is constantly sun exposed turns pale and yellow.

To avoid this chronic exposure of sun, we recommend a makeup with a sunscreen or sunblock built into the base. This provides yearlong protection. For those occasions that call for extra protection, use a sunblock with a 15 or higher rating applied prior to the makeup on all sun exposed surfaces. Photoaging appears as the yellow, sallow change in the skin, but may also result in multiple fine wrinkles, blotchy pigmentation spots, and a dried out or leathery appearance to the skin.

Prevention of course is the best course, but if you find yourself with sun damaged skin, there are several treatments available. In addition to a vigorous prevention program to avoid any further damage, we recommend a treatment program with derivatives of Vitamin-A which include Retin-A or trentonin. Retin-A or tretonin is a medication that helps to return the epidermal skin cells (or those cells on the skin surface) to normal after they are sun damaged. There is some evidence that it may help prevent skin cancer due to this effect. Dermatologists and plastic surgeons have noted some improvement in the fine wrinkles and other signs of photoaging probably as a result of the changes of the epidermal cells at the skin surface.

A low concentration is usually prescribed, followed by a gradual increase in strength in order to see full benefits from the treatment. As Retin-A can be irritating to the skin with redness and dryness, a moisturizing program usually twice daily is necessary. Retin-A makes the skin very susceptible to sun damage, therefore a sunscreen program must be started at the same time. Effects take several weeks to months, but clinical benefits include improvement in blotchy pigmentation, smoother texture, decreased pore size, softening, or even resolution of fine wrinkles. We believe new fresher skin may also be less prone to superficial skin cancers. Kinerase may be just as effective as Retin-A but with less skin irritation or skin redness.

Another program that helps with photoaging is glycolic acid. Glycolic acid is a weak acid found naturally in sugarcane, that acts as a super moisturizer to help reduce the dryness caused by sun exposure, helps to remove superficial pigmentation or brown spots, helps to even out the epidermal or skin surface, and helps to reduce pore size. It does not appear to have the benefit of Vitamin-A in repairing damage that may cause skin cancer. Glycolic acid is placed in

various products supplied for daily use on the face. The most effective program consists of daily treatment with a general glycolic acid facial cleanser for two to three weeks prior to a glycolic acid peel at a higher strength. The glycolic acid peels are performed by trained personnel usually in plastic surgery or dermatology offices. A series of peels given at one to two week intervals is recommended for optimal results. The advantage of glycolic acid peels, compared to other facial peels, is that after neutralization, the surface changes consist usually only of some mild to moderate redness. Make-up can usually be applied after the peel and no special precautions are needed. For this reason, we are able to use this peel on women of color with virtually no risk of pigmentation irregularities, often seen with deeper peels. Not all brown spots and pigmentation problems respond to glycolic acid peels, however. This is why your dermatologist and / or plastic surgeon evaluates your skin prior to recommending a particular skin program.

For more severe photoaging with leathery skin and deeper wrinkles, a deeper chemical peel is needed. The depth of the skin damage determines the depth of the chemical peel needed to correct the damage. A chemical peel of medium depth usually involves T.C.A. or trichloroacetic acid, which is a stronger acid than glycolic acid. This acid is applied to the facial skin alone or in combination with other agents, in order to create a deeper degree of peel. After a T.C.A. peel there is usually a more noticeable degree of redness and superficial blistering and peeling of the skin surface similar to a severe sunburn. After five to ten days, the epidermal or surface layer regenerates as a smoother and more even skin surface with less blotchy pigmentation.

It is critical not to expose this delicate new skin to the sun. Inadvertent sun exposure can lead to complications of blotchy pigmentation, irregularities, and the need for additional chemical peels to correct these problems. A moisturizer program is also advised after a peel and many dermatologists and plastic surgeons pretreat peel patients with Retin-A for two to six weeks to help reduce potential unevenness of the peel due to thickened, dried epidermal skin cells. A Blue Obagi peel is a form of TCA peel.

For those patients with severe sun damage, laser resurfacing or a phenol chemical peel may be advisable. This peel has several ingredients of which the main one is phenol, which produces a deeper peel that is used to treat deeper wrinkles. The disadvantage of this peel is the length of recovery (usually seven to fourteen days) during which wound care to the face is needed, and the persistent redness of the skin for many months after the peel. As sun exposure is very detrimental to the newly formed skin, this peel is usually performed in the fall or winter so some healing has taken place prior to the sun intensive seasons. Neither T.C.A. nor phenol peels would be performed on patients who are taking Accutane for acne. As there are many factors to consider in choosing a peel including skin type, depth of wrinkles, skin pigmentation, pre-existing skin conditions such as acne, skin sensitivity, pore size, and lifestyle as well as many types and subtypes of peels available, evaluation by a plastic surgeon or dermatologist is advisable. If facial aging is more severe, a plastic surgeon also has a variety of surgical procedures to correct other aspects of facial aging such as those due to gravity, expression lines, and localized fat deposits in the cheeks or under the skin.

For more information on causes of facial aging due to factors other than sun exposure, take a look at “Facial Rejuvenation: Prevention and Treatment of Facial Aging” the next article in Panorama of Plastic Surgery.