the latest in

Cosmetic and Medical Dermatology

Beginning in our twenties, the effects of aging become apparent in our skin. As skin becomes less elastic, it also becomes drier. Underlying fat padding begins to disappear. With loss of support by the underlying fat padding and connective tissue, the skin begins to sag. The skin begins to look less supple and wrinkles form. The effects of chronic and excessive sun exposure and cigarette smoking also contribute to aging effects. Aging and years of exposure to the elements lead to unwanted skin conditions.

Unwanted Skin Conditions (I): Aging

Age and liver spots*:* Flat brown areas usually found around the face, hands, back and feet. Spots such as these are related to UV exposure. (They have nothing to do with the liver.)

Actinic Keratosis*:* Growths on the skin that appear thick, warty, rough or reddish. These growths are usually on sun-exposed areas of the skin and may be precursors to squamous cell carcinoma.

Seborrheic Keratosis*:* These are brown or black raised spots, or wart-like growths that appear to be stuck to the skin's surface. They are not cancerous.

Ways to Combat Skin Conditions Due to Aging: Dermatologic Medical Skin Rejuvenation

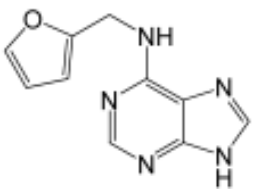
Topical Treatments

As a response to these skin conditions, many dermatologic therapies have been created to improve the outward appearance of the skin. Topical ointments are the easiest products for a patient to obtain and are often easy to use.

Vitamin A/Retinol: Vitamin A plays a role in maintaining and promoting skin health. Retinol works on the surface of the skin to renew and restore skin's appearance. It reduces fine wrinkles, splotchy pigmentation and rough skin. As the strength of retinol increases, so does its potential to irritate the skin.

Renova®: A vitamin A derivative in an emollient cream available by prescription. It is medically proven to reduce fine facial wrinkles, fade brown spots and smooth surface roughness. Renova claims to work at the cellular level and increases collagen to reduce the signs of aging. Some side effects include some redness, itching or flaking.

Alpha-Hydroxy Acids: These are naturally occurring complexes derived from food sources such as fruit, milk and sugar cane. They are effective at removing the top layer of dead skin cells which moisturize skin.



Kinetin: This is a growth factor that promotes cell division and ensures orderly growth and development of plants. These substances in plants prevent the aging in leaves. Kinetin is capable of delaying or preventing many age-related changes of human skin fibroblasts grown in laboratory culture. Fibroblasts are cells which produce collagen and elastin, two proteins tied to the development of wrinkles and sagging skin.

Surgical Treatments

Microdermabrasion: This is a mechanical resurfacing procedure that removes the outer layers of skin to expose smooth, new skin below. Dermabrasion uses a small, rapidly spinning wheel with a roughened surface similar to sandpaper to abrade the skin. Laser therapy has the same effects but through laser vaporization of the skin.

Fillers: Substances that are compatible with the patient's body tissues are injected under the skin to elevate irregularities such as wrinkles, pits and scars. Substances that are used most often are collagen and self-donated body fat.

Botox: Botulinum toxin is a toxin produced by bacteria. It causes muscle paralysis and prevents sweating. Dermatologists use it in small doses to inject into specific muscles of the face to reduce wrinkling. The treated muscles weaken after injection preventing them from contracting, thus preventing the appearance of wrinkles. These injections are used primarily in frown muscles of the forehead and in the areas around the eyes that show crow's feet. Botox treatments last for a few weeks and require additional injections after three to six months. After three or four treatments, patients notice that the muscles have permanently weakened so it is not necessary to continue with treatment. A major side effect associated with botulinum toxin injections is the rare complication called ptosis. This is the drooping of the eyelid caused by the toxin tracking into the eyelid muscle.

Unwanted Skin Conditions (II): Disease

Skin Cancers (Melanoma)

In addition to skin conditions related to aging, years of exposure to UVA/UVB rays can lead to very serious cancers. Malignant melanomas (skin cancer) arise from uncontrolled growth of pigment-producing tanning cells. Melanomas may suddenly appear without warning, but can develop from or near a mole. Excessive exposure to UV radiation of the sun is the cause of melanoma that is most preventable. People in southern regions, where sunlight is more intense, are more likely to develop melanoma than those in northern regions. It is reported that half of all new cancers are skin cancers and greater than one million new cases will be diagnosed in the US this year. Older Caucasian males have the highest mortality rates for melanoma. Other possible factors include genetic factors and immune system deficiencies. Malignant melanomas are also linked to past sunburns and sun exposure at younger ages.

Risk factors

Excessive sun exposure in the first 10-15 years of life increases chances of developing melanoma threefold.

Redheads and blondes have a twofold to fourfold increased risk of developing melanoma.

Caucasians with fair skin have twice as great a risk than Caucasians with olive skin.

Risk is increased if your patients, children or siblings have had melanoma.

Risk is increased if you have many moles, large moles or atypical moles

So how do you know if you have melanoma? There are many different guidelines to follow when checking your skin for melanoma. Unusual moles can be a sign of a developing skin cancer. Unusual moles are ones that are generally larger than normal moles, variable in color, often have irregular borders and may occur in far greater numbers than regular moles. Malignant Melanomas begin as mottled, light brown to black flat blemishes of the skin, with irregular borders. Usually they are at least one-quarter inch in size and may turn shades of red, blue or white. They may crust on the surface and bleed as well.

When detected early, in most cases, surgical removal of thin melanomas can cure the disease. Early detection is essential as there is a direct

correlation between thickness of the melanoma and survival rate.

What can you do to reduce your chances of getting skin cancer?

(1) Avoid peak sunlight hours (10am-4pm) where the sun's rays are the most intense.
(2) Wear protective clothing, including a hat with a wide brim and long-sleeved shirt and pants during prolonged periods of sun exposure.
(3) Apply a broad spectrum sun screen with SPF of at least 15. You should reapply every 15 minutes, especially if participating in outside activities.

Other Skin Conditions

There are various other skin conditions not necessarily related to aging or sun exposure. Adult onset of these conditions can be emotionally debilitating and place a damper on the patient's quality of life.

Shingles: a condition caused by a virus (herpes zoster) that also causes chicken pox. It is thought that the virus lies dormant in nerve tissue until it is reactivated to cause shingles. After a few days of localized pain, the skin erupts with red and fluid-filled lesions along the rout of the affected nerve. As the condition progresses, new lesions continue to form and pain continues to be severe.

Treatment with anti-viral drugs is most effective in the early phase of shingles.

Psoriasis: a chronic, genetic, noncontagious skin disorder that appears in many different forms and can affect any part of the body. It is most commonly found on the scalp, elbows, knees, hands, feet and genitals. Plaque psoriasis is the most common type of the disease that is characterized by raised, thickened patches of red skin covered with silvery-white scales. Patients often report an itching or burning sensation as the disease progresses. Plaque psoriasis begins with small red bumps on the skin that progress to bigger, scaly patches that may become itchy and uncomfortable.

Treatments for psoriasis can be divided into three basic categories: sunlight and topical agents; phototherapy (artificial ultraviolet light, or a combination of ultraviolet light and medications); and systemic (internal) medications taken by pill or injection. Topical steroids are generally effective at treating the inflammation that occurs with psoriasis, however side effects are great.

Seborrheic Dermatitis: This is a skin condition closely related to psoriasis. Seborrheic dermatitis is classified by lesions on the face and ears that appear as light red to pink patches with scales. Occurrence is thought to be associated with a reaction to the overgrowth of yeast on the surface of the skin in genetically susceptible individuals.

Treatment is directed toward decreasing yeast on the scalp and affected areas, loosening and removing the thick scales, preventing secondary bacterial infections, and reducing inflammation. There is no cure for seborrhea dermatitis; however routine treatments can control the disease.

Eczema/Atopic Dermatitis: Atopic dermatitis is the most common form of eczema. It is characterized by dry, red, extremely itchy patches on the skin. Its cause is unknown, but the condition appears to be an abnormal response of the body's immune system. The inflammatory response of the body to irritation substances is overactive, causing itching and scratching. Chronic scratching causes the skin to take on a leathery texture because the skin has thickened.

The most common treatments are lotions or creams that keep the skin moisturized. Cold compresses applied directly to itchy skin can also help relieve itching. When these treatments don't work, the patient is prescribed corticosteroid creams and ointments that reduce inflammation. Steroids have multiple side effects including thinning of the skin. Since skin affected by eczema can become easily infected, oral antibiotics are prescribed as well to kill bacteria causing the infection.

Non-conventional therapies include tar treatments which may sooth the skin, or phototherapy which slows the abnormal growth of skin cells. Recently, a new class of drugs has been approved for treatment of eczema. There are topical immunomodulators; topical drugs that modulate the immune response. These drugs alter the reactivity of cell-surface immunologic responsiveness to calm the overactive immune system of the skin, thus reducing eczema symptoms. This new class of drugs is also being tested in patients with diseases similar to eczema; seborrheic dermatitis and psoriasis.