

SKIN



The skin is a unique and remarkable organ that is the outer covering of the body. One square inch of skin contains millions of cells as well as many specialized nerve endings for sensing heat, cold, and pain. The skin is nourished by blood vessels and contains numerous oil glands, hair follicles, and sweat glands. The skin protects the vital organs and serves as a heat regulator —sweating when you are hot allows the water to evaporate and cool the skin. When your body is chilled, the vessels become narrowed and decrease the flow of blood through the skin to reduce heat loss. The skin's texture gives a great deal of information about a person's general health.



ELEMENTS OF THE SKIN

The skin is composed of two layers, the epidermis and dermis, that rest on the subcutaneous tissues.

Epidermis The outer layer of the skin is made up of outer dead skin cells and deeper living cells.

Dermis The dermis is found beneath the epidermis and makes up 90 percent of the skin. The melanocyte within the epidermis produces melanin giving color to the skin and helps protect it from ultraviolet light.

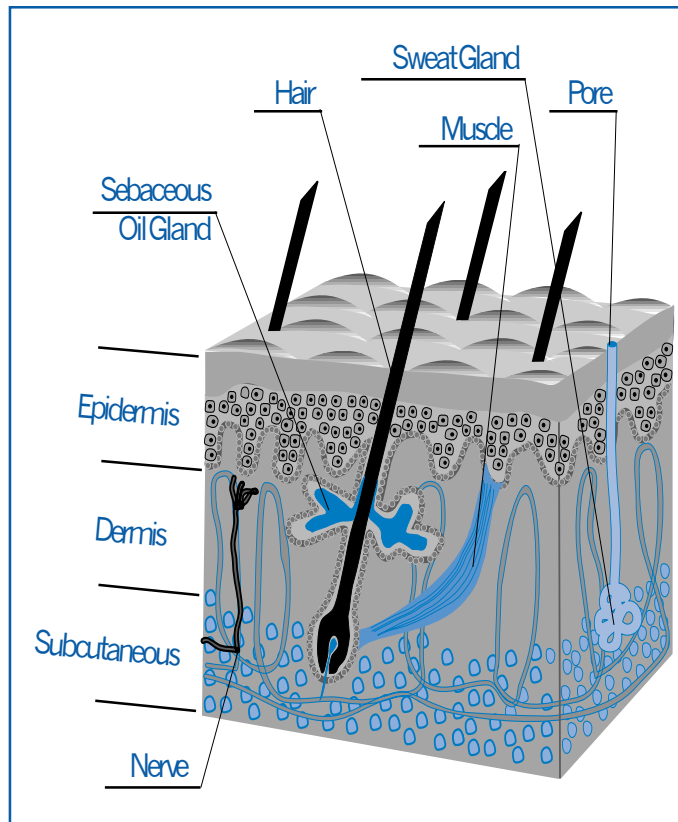
Subcutaneous The epidermis and dermis sit on the subcutaneous layers, composed largely of fat, through which the blood vessels and nerves run. The roots of the oil and sweat glands are located here.

Sebaceous Oil Glands These are distributed throughout the skin but are mostly concentrated in the scalp, face, mid-chest, and genitals. They are attached to the hair follicles and secrete an oily substance (sebum) that lubricates and protects the skin.

Sweat Glands These glands are distributed throughout the body but the greatest number are found in the palms, soles of the feet, forehead, and underarms. They secrete at times of stress, emotion, or in the presence of a warmer environment.

Hair Each hair grows from a single follicle that has its roots in the subcutaneous tissue of the skin. The oil glands next to hair follicles provide gloss and, to some degree, waterproofing of the hair. Hair also contains melanin. The number of melanin granules in the hair determines its color. Malnutrition can cause damage to the hair.

Fingernails and Toenails These are part of the epidermis and are composed of the protein, keratin. Each nail grows outward from a nail root that extends back into the groove of the skin. With malnutrition, after an injury, or chemotherapy, the nail formation is impaired.





SKIN TYPES

Oily Skin Oily skin is caused by overactivity of the sebaceous glands. Oily skin is thick with large pores and has a greater tendency to develop acne, but not wrinkles. Most people who have oily skin also have oily hair.

Dry Skin Dry skin is caused by underactivity of the sebaceous glands, environmental conditions, or normal aging. Dry skin is usually thinner and more easily irritated. There is a greater tendency to develop wrinkles, but not acne.

Balanced Skin Balanced skin is neither oily nor dry. It is smooth and has fine texture — with few problems. However, it has a tendency to become dry as a result of environmental factors and aging.

Combination Skin Combination skin consists of oily regions -- often on the forehead and around the nose — and regions that are balanced or dry.

PROPER SKIN CARE

The single most important goal in caring for the skin is to protect it against ultraviolet light. Regardless of your skin color or type (or your age), you must avoid overexposure to the sun's ultraviolet rays. Doing this will prevent unnecessary deterioration of the skin, and eventually, skin cancer. Dark skin tolerates more sun than fair skin, but any skin can be damaged from overexposure. Warm (never hot) water with mild soaps should be used to cleanse the skin.



SKIN DISORDERS

The skin is constantly exposed to the elements and is susceptible to numerous problems. Taking care of your skin, however, can either prevent or moderate many of these problems. The following are some of the more common skin disorders:

■ ACNE

Acne occurs when the hair follicles of the skin become plugged. Each follicle contains sebaceous glands that secrete a fatty oil (sebum) to lubricate the hair and skin. When the sebum and dead cells are produced faster than they can exit from the skin pore, they solidify as a white plug. This plug may seal off the pore, causing a bulge (whitehead). Three out of four teenagers have acne because the hormonal changes stimulate the sebaceous glands during these years. Acne in later life, in some individuals, can also occur.

SIGNS AND SYMPTOMS	Blackheads or whiteheads on the face, neck, shoulders or back; pimples; cysts of the skin.
DRUG TREATMENT	This may include antibiotics, topical vitamin A acid cream, and benzoyl peroxide (over the counter), or in severe cases oral isotretinoin (Accutane).
SURGICAL TREATMENT	For scarring, laser surgery or dermabrasion may be considered.

■ ATOPIC DERMATITIS

Atopic dermatitis (infantile eczema), is often associated with allergies, asthma, nasal congestion, and hives. Frequently, it runs in families. It usually begins in infancy as areas of scaling and redness concentrated in the folds of the elbows and knees. The ailment causes severe itching. It may come and go over time.

SIGNS AND SYMPTOMS	Itchy, thickened, cracked skin, most often in the folds of the elbows or back of the knees.
DRUG TREATMENT	Cortisone-containing lotions or wet compresses should be applied if the skin breaks open. Antihistamines may be helpful if itching is severe. Frequent application of moisturizers and limiting bathing is frequently helpful.



■ CONTACT DERMATITIS

Direct contact with various substances can cause a skin inflammation known as contact dermatitis (eg, exposure to poison ivy or sensitivity to material in jewelry). The surface underneath can become inflamed. Certain cosmetic products or contact with other materials brought to the eyelids by your finger tips (such as newspaper ink) can cause inflammation. In allergic contact dermatitis, it is not unusual for the allergen to be something that you have used for years with no problem. Many common irritants, including hexachlorophene in soap, acetone in nail polish remover, thimerosal in contact lens solutions, and household cleaning products, can produce contact dermatitis.

SIGNS AND SYMPTOMS

Redness and itching; blisters and draining from the sores in severe cases.

DRUG TREATMENT

Avoid the offending irritant and occasionally, cortisone-containing creams or a slightly astringent wet dressing may be helpful.

■ DRUG RASHES

Allergic reactions to both over the counter and prescribed drugs are common. When a rash occurs while you are taking a medication, that medicine must be suspected as a cause of the rash. Drug reactions, however, can involve more than an itch or rash — there may be fever, seizures, nausea, vomiting, diarrhea, heart beat irregularities (arrhythmias), breathing difficulties (asthma), or kidney problems with decreased urinary output. The signs and symptoms are varied.

TREATMENT

If the rash is due to a medication, it is important that your physician be involved in the decision to stop using the drug, particularly if it is critical to your well-being. Often, a substitute drug may be prescribed. Oatmeal baths (over the counter) or wet dressings may be soothing.

DRUG TREATMENT

Cortisone cream may help areas of itching. Antihistamines may also be given and will benefit some types of drug rashes.



■ DRY SKIN

Dry skin is a common problem that often occurs in older people. It is particularly annoying in the winter, when the cold air outside and the heated air inside are low in humidity. The symptoms are the result of loss of natural moisture and oil from the skin. The skin cracks in severe cases with round patches of irritated skin. The most common sites of the irritation are on the lower legs, upper arms, sides (flanks), and thighs, which are areas of clothing irritation.

TREATMENT To decrease the dryness, take shorter and less frequent baths and showers; when bathing use tepid (warm, but not hot) water; apply soap only to your face, armpits, hands and feet, genital, and anal areas. Dry off gently. After bathing, apply moisturizer immediately. Humidification may help and wearing soft underclothing (well-rinsed and dried with nondeodorized softeners) will reduce the irritation.

DRUG TREATMENT Over the counter cortisone (corticosteroid) cream may be applied to moist skin to reduce itching.

■ HIVES

Hives are also known as urticaria and are one of the most common skin disorders. Typically, the condition appears as a reaction to internal or external allergens. Red or pink itchy bumps on the skin and swelling of the skin occurs as a result of either ingesting or touching an irritant that results in an allergic reaction. (See chapter on Allergies.)

■ ICHTHYOSIS

This is called fish-scale disease because of the appearance of the rash. The disorder usually occurs in childhood, between ages one and four years. Sometimes it disappears entirely for most of the adult years, only to return in later life. The rash is most noticeable on the elbows, knees, and hands. It usually worsens in the winter. It can be associated with atopic dermatitis (see above).

■ LICHEN PLANUS

This is a rare, recurrent, itchy rash producing shiny, reddish-purple spots on the skin and gray-white ones in the mouth. Most commonly it appears in mid-life. An initial attack may persist for weeks or months, and recurrences can continue over many years. Oral symptoms (eg, dryness and a metallic taste or burning in the mouth) may appear first and be the only evidence of the disease. The cause is unknown. Flare-ups, after the initial attack, are thought to be related to stress. The rash may produce ridges in the nails and leave behind dark spots on the skin.

DRUG TREATMENT Corticosteroid ointment is used for itching. In severe cases, oral tablets of a corticosteroid (prednisone) is given.



■ NEURODERMATITIS

Neurodermatitis is usually caused by chronic irritation such as a tight garment that rubs or scratches, or causes you to rub or scratch a particular area of the skin. This leads to skin thickening and itching.

SIGNS AND SYMPTOMS

Itching, aggravated by nervous tension; thickening or circumscribed patches of skin; scratch marks (excoriations).

DRUG TREATMENT

Cortisone-containing lotions (over the counter) may help decrease itching and inflammation.

If more severe, a stronger cortisone preparation may be prescribed.

Sedatives and tranquilizers may help, but may be addicting and will require monitoring by your physician.

■ PIGMENT CHANGES

The skin color is determined by the melanin pigment created in the skin cells. Occasionally, something happens to the coloring mechanism and an area of skin starts producing too much melanin and becomes darker. They occur in both men and women with no apparent cause. They are seen in pregnancy or in some women who use birth control pills, which is called melasma.

The reverse can also occur — when no melanin is produced in a patch of skin and it becomes white. These patches are most common on the face and pressure areas. Cosmetics or skin dyes often are used to hide the patches. Vitiligo (white patches) become sunburned easily and use of a sunscreen lotion is advised.

■ PITYRIASIS ROSEA

Pityriasis (scaling) roseas (rose colored) is a common benign rash seen most frequently in young people. A single scaly red patch on the torso may be the first sign. After several days, more spots appear. It is thought to be caused by a virus. The rash usually disappears in three to 12 weeks. Occasionally, other blood tests are done to rule out other causes of the rash.

TREATMENT

This will resolve spontaneously and treatment is usually unnecessary.



■ PSORIASIS

This is a common skin disorder characterized by flare-ups and then partial remissions. The attacks can range from a few spots of dandruff-like scaling to large areas of major eruptions. The most common locations are elbows, knees, trunk, and scalp; pits or ridges may develop in the nails. The eruptions take on several forms including pustules, skin cracking, itching, minor bleeding or aching joints. Psoriasis is not contagious. Environment and genetics are involved in its cause. Flare-ups are often triggered by skin injuries, such as a cut, burn, rash, or insect bite and can also result from medications, viral or bacterial infections, excessive alcohol consumption, being overweight, lack of sunlight, a bad sunburn, stress, or by constant friction on the skin.

SIGNS AND SYMPTOMS

Dry, red patches of skin, covered with silvery scales. Small scaling dots are most commonly seen in children.

SELF TREATMENT

Maintain good general health. Maintain a normal weight, lessening aggravation of the psoriasis when it occurs in creases or folds of the skin. Exposure of psoriatic areas to sunlight may help resolve some patches. Avoid scratching, rubbing, or picking at the patches of psoriasis. These habits cause thickening of the affected area.

HOME TREATMENT

In mild cases, over the counter coal-tar soaps, shampoos, cleansers, or ointments, used together with bath oils, are sufficient. Affected patches in the scalp may require a phenol and sodium chloride (salt) lotion or a treatment with a stronger tar preparation.

DRUG TREATMENT

A variety of cortisone, vitamin D type products, and anthralins are available by prescription. Severe cases of psoriasis often require phototherapy (treatment with an ultraviolet light). In disabling cases, an anticancer drug, methotrexate, is taken orally to slow down the rapid production of skin cells.

■ ROSACEA

This is a chronic inflammation of the cheeks, nose, chin, forehead, or eyelids. The symptoms are due to enlargement of blood vessels just under the skin. This occurs most often in fair-skinned persons who blush easily. Although it is more common in women, men are more likely to have the severe form with a bright, bulbous nose. Rosacea is not life-threatening but seriously affects appearance. The redness can sometimes be minimized by avoiding hot or spicy foods, hot beverages, and alcohol.

HOME TREATMENT

Green tint cosmetics disguise the redness.

DRUG TREATMENT

Antibiotic treatment with topical metronidazole or oral tetracyclines are generally effective.

SURGICAL TREATMENT

Laser treatment can reduce persistent blood vessels and improve appearance.



■ SEBORRHEIC DERMATITIS

This condition is characterized by greasy scaling and a somewhat reddened appearance of the skin, predominantly in the folds at the sides of the lower portions of the nose, above the bridge of the nose, and over the breastbone. It also occurs beneath the breasts, in the folds of skin in the genital regions, and around the umbilicus (navel) in obese persons. Scaling and itching of the scalp is also seen (dandruff).

TREATMENT Frequent shampooing of the scalp is required followed by careful rinsing. Application of hydrocortisone-containing creams or solutions may soothe the skin.

■ SPIDER-BURST LEG VEINS

This is a name for a pattern of bluish veins seen through the skin of the leg, and does look similar to a spider. Unlike the more serious varicose veins, they are only painful to the vanity of a patient. Options for treatment are to ignore the changes, unless they become unsightly.

TREATMENT Sclerotherapy is an effective treatment. The physician slowly injects a solution into one or several of the visible veins. The procedure collapses the veins, preventing blood from flowing into them and eliminates the discoloration. Another treatment option is the use of a laser.

■ STASIS DERMATITIS

Conditions affecting the vessels in the legs, other than the arteries, can lead to a buildup of fluid (edema) in tissues beneath the skin. As a result, these areas are poorly nourished by blood and become fragile. The ankles are especially vulnerable to skin breakdown. The skin may become inflamed and ulcers may form. The healing is very slow. When this condition has healed, the skin becomes thickened, possibly due to scratching.

SIGNS AND SYMPTOMS Thickening and itching of the skin at the ankles.

TREATMENT Correcting the condition causing the fluid to accumulate seems to help. Elevate the legs well above the level of your heart for a week or more. Consider an elastic support hose for the lower legs. Wet astringent dressings also may be used to soften the thickened and fragile skin and control infection.

DRUG TREATMENT Antibiotics may be necessary for a secondary infection, along with lubrication and cortisone creams.



■ SUNBURN

Sunburn results from an overexposure to the sun's ultraviolet radiation. The ultraviolet content of sunlight varies and is greater at higher elevations. It is not filtered out by clouds or haze. Cold air does not reduce ultraviolet radiation from the sun. Reflected ultraviolet light from snow, sand, water, and other surfaces can burn as severely as direct sunlight. The swollen, red skin of a sunburn is due to congestion in the capillaries that supply blood to the skin. Occasionally, a mild sunburn can stimulate the melanin pigment as a protection. More melanin means a deeper tan, if the additional pigment is distributed evenly. Otherwise, it forms freckles, liver spots, or discolored splotches. Your melanin production is genetic and there is nothing you can do to change your tanning capabilities.

If you have a rash or itching, you may have sun poisoning (an allergy to sunlight after severe sunburn). The effect of a sunburn damages the skin and if the sunburn is severe, skin cells die and blisters form. The skin then heals over in a period of a week or two. Overexposed damaged skin cells accumulate and produce skin discolorations, actinic keratosis, (precancer) and skin cancer. Ninety percent of all skin cancer is due to this irreversible damage.

If you expect to be exposed to sunlight for lengthy periods, get protection. Wear a hat; select shirts with long sleeves and avoid wearing shorts. When possible, plan outdoor activities for early morning or late afternoon hours to avoid ultraviolet radiation, which is most intense from 10 am to 2 pm. Whenever outdoors for long periods, use a premium quality sunscreen lotion (reapply frequently as the protection diminishes with evaporation from swimming and perspiration). This will not totally prevent tanning but can protect you from burning. Coconut oil, cocoa butter, or baby oil do not make you tan quicker and do not provide protection for the skin. Good sunscreens contain either para-aminobenzoic acid (PABA) or benzophenone — some contain both. Your sunscreen will work best if you apply it at least one-half hour before exposure. Alcohol-based sunscreens seem to penetrate deeper and afford the best protection. Also, use protection in the winter around the eyes, nose, and lips.

DRUG TREATMENT

Apply hydrocortisone cream several times daily (available over the counter). Leave the water blisters intact to speed healing and avoid secondary infections. If they break open, apply an antibacterial ointment on the open areas (neosporin, bacitracin). Keep the wounds clean. Aspirin or ibuprofen can help with the discomfort. If the sunburn is severe, contact your physician.

(See also, "the sun and your skin" later in this chapter)



■ XANTHELASMA AND XANTHOMA

These are yellowish bumps with well defined margins that appear beneath the skin. Xanthelasma are flat and appear in the skin of the eyelids near the nose. They are not painful. Xanthomas are a sign of an underlying metabolic disorder that increases the fat concentration in the blood. They are seen in patients with diabetes. They may appear any place on the body. They may vary in size from one to three inches and are most frequently located in areas of pressure such as the knees, elbows, and buttocks. Their presence prompts evaluation for underlying disease.

SURGICAL TREATMENT The bumps can be surgically removed but have a high rate of recurrence after removal.

INSECT INFESTATIONS

■ LICE (HEAD)

Head lice, about the size of a sesame seed, are common in school children of every socioeconomic group. They are not a sign of poor hygiene. They are transmitted by contact either with someone who has them or with that person's belongings, such as a hat or comb.

SIGNS AND SYMPTOMS Severely itching scalp, with frequent scratch marks becoming infected.

DRUG TREATMENT Over the counter products are available or Permethrin cream, a prescription only remedy. Antibiotics are only recommended for those people who have contracted a bacterial infection as a result of scratching the lice.

■ LICE (BODY AND OTHER)

Lice are tiny parasitic insects that occur among people who live in overcrowded buildings under conditions of poor hygiene. These insects are transmitted by close contact, including sexual contact. Lice are frequently spread among school children; they can also be spread from infested toilet seats. There are three species; head lice, pubic lice (also called crabs), and body lice. Head lice is discussed above.

SIGNS AND SYMPTOMS Intense itching; lice on the body and clothing; nits in the hair shafts.

DRUG TREATMENT Several lotions and shampoos (eg, Lindane) are available over the counter and by prescription. Apply the product to all infested and hairy parts of the body. Children should be kept at home until they have had at least one treatment. Sheets, combs, brushes, and hats should be washed in hot, soapy water.



■ FLEAS

Fleas are small insects that suck blood from dogs, cats, humans, and other animals. They have a great jumping ability and often spread from family pets to their owners. Eggs laid in bedding can hatch and remain there to feed off animals or humans.

SIGNS AND SYMPTOMS

Localized rash; severe itching.

TREATMENT

Calamine lotion may help to relieve the itching but the problem will continue until the fleas are eliminated. Treatment of animals and their living areas is necessary. Flea insecticides are available. Spray on a pet's bedding, as well as your own. Furniture and carpets should also be sprayed.

■ SCABIES

These are tiny mites, almost impossible to see without a magnifying glass, that cause severe itching, particularly during the night. They are found worldwide among all groups of people, all ages, and often infest an entire family. Scabies are spread by close physical contact and, less often, by sharing clothing or bed sheets with an infested person.

SIGNS AND SYMPTOMS

Itching at night; thin, pencil-like lines on the skin. Lesions and symptoms are especially pronounced over fingers, wrists, elbows, breasts, groin, knees, and ankles.

DRUG TREATMENT

There are several prescription lotions and creams available that are applied all over the body, from the neck down, and left on overnight.

■ TICKS

Ticks are small, flat insects that feed on blood. They live in tall grasses, brush, and wooded areas and attach to passing animals or persons. After being in a wooded area, check yourself for ticks. They are often lodged in the hair, around ankles, and in the genital area. Do not scratch a tick bite. If you do, the body of the insect may break off, leaving the head embedded in your skin.

SIGNS AND SYMPTOMS

Itching; presence of ticks (small hard lumps surrounded by a red circle).

TREATMENT

Gently remove the tick, preferably using a tweezer. Particularly in areas where Rocky Mountain spotted fever is known to be present, never detach a tick with your bare hands because infection may result.



OTHER GROWTHS AND MARKINGS

■ ACTINIC KERATOSIS

Actinic or solar keratosis occurs mostly in fair skinned persons with sun damaged skin. Initially, the lesions are scaly and flat. Later they have hard, wart-like surfaces. Their sandpaper surface is more easily felt than seen. They are precancerous. Treatment is important as 20 percent of untreated keratoses develop into squamous cell skin cancer.

TREATMENT Topical medications can be of help treating actinic keratosis.

SURGICAL TREATMENT Cryotherapy (freezing) with liquid nitrogen, electrical burning, or surgery can be used to remove actinic keratosis.

■ BIRTHMARKS

The most common birthmark is a hemangioma (filled with blood). They are benign, usually painless markings on the skin of unknown origin caused by proliferation of the blood vessels in the area involved. In rare instances, they can be severe and require medical attention.

■ CUTANEOUS TAGS

Also known as skin tags, these are tiny benign tumors of unknown origin that protrude from the skin on a narrow stalk. They are soft and normally skin colored. Skin tags are common (especially after middle life) and usually painless, but they can become irritated by friction from clothing. Treatment is unnecessary unless the tag is bothersome.

SURGICAL TREATMENT Skin tags can be surgically removed with excision or electric current.

■ KELOID

A keloid is an overproduction of scar tissue, sometimes called hypertrophic scarring. It occurs at the site of a skin injury (operation, vaccination, severe acne, burn, or even a minor scratch in susceptible individuals). The keloid is harmless but it may be tender, itchy, or unpleasant to look at. Some keloids simply stop growing and disappear.

SURGICAL TREATMENT Surgical removal often causes further scarring unless followed by radiation treatment or injection of steroids at the site. Small keloids may be removed by freezing with liquid nitrogen (cryotherapy).



■ LIVER SPOTS

Also known as senile lentiginos, liver spots are harmless flat patches of increased pigmentation that range from freckle-size to a few inches across. They are common after the age of 55 and occur most commonly on the backs of the hands or the forehead. They are frequently associated with overexposure to the sun. Most people seek no treatment.

DRUG TREATMENT

For cosmetic reasons, liver spots can be lightened with a skin bleaching product or frozen with liquid nitrogen. Recurrence is minimized by the use of a sunscreen lotion.

■ MOLES

Almost everyone has moles. The mole is a benign tumor consisting of nests of pigment cells. They may contain hair, stay smooth, become raised or wrinkled, and even fall off in old age. Moles are usually harmless but can become cancerous. Consult your physician if they grow, change color, itch, cause pain, or an inflammation develops.

■ SEBORRHEIC KERATOSIS

These are yellow, brown, or black growths on the face, chest, shoulders, or back. They are benign skin tumors of unknown origin that commonly appear on light-skinned persons after the age of 40. They are not caused by viruses or exposure to sunlight. They usually require no treatment unless they itch, irritate, or detract from your appearance. They are not deeply rooted and may be easily destroyed by cryotherapy with liquid nitrogen.

■ WARTS

The common wart, *verruca vulgaris*, is a benign tumor caused by a virus that stimulates rapid multiplication of skin cells. Warts are contagious by contact and most commonly occur on the hands or feet (plantar warts). Warts are harmless and may disappear spontaneously in approximately two years. Plantar warts, however, are often painful from the pressure of standing on them.

DRUG TREATMENT

Over the counter medications may remove a wart.

SURGICAL TREATMENT

Warts can be removed by freezing (cryotherapy), electrical burning, minor surgery, or laser treatments.



SKIN CANCERS

Any change in an existing growth on the skin or a new growth that ulcerates without healing should be evaluated by your physician as it could be a skin cancer. The cure for skin cancer is high with early treatment. If neglected, however, the skin cancer can lead to a disability or even death. More than 90 percent of skin cancers occur on areas regularly exposed to ultraviolet radiation, and this exposure is considered to be the primary cause. Other contributing factors include: genetic predisposition (light colored skin, blue eyes, blonde or red hair); chemical pollution; and x-ray radiation.

■ BASAL CELL CANCERS

This is the most common form of malignant skin tumor, accounting for 75 percent of all skin cancers. When basal cells become cancerous, they form a painless bump or flat lesion that may ulcerate after a few months, enlarge slowly and never heal completely. Lack of medical attention can allow the growth to invade nearby tissues and underlying structures, including nerves, bones, or the brain.

SURGICAL TREATMENT This may include scraping and cauterization, surgical excision, cryosurgery, irradiation, or a series of microscopically controlled shaved excisions (Mohs' chemosurgery). With early surgery, the cure rate is expected to be 95 percent.

■ KAPOSI SARCOMA

This is a malignant condition sometimes associated with other cancers, including leukemia and lymphoma. The early lesions are red to purple and resemble a birthmark. Older lesions become brown to black, are flatter, and occur with scarring of the skin. The disease appears in two forms: aggressive and indolent. The aggressive form occurs both internally and externally. It is now occurring with acquired immune deficiency syndrome (AIDS). If linked, the cancer is very dangerous. The dark tumors of the indolent form, which are caused by blood vessel involvement, can spread to the hands and arms or can produce fungus-like growths, or both. The cancer can penetrate to the underlying tissue, invade bone, lymph nodes, and internal organs.

TREATMENT The treatment may include radiation therapy and/or chemotherapy.



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■ MALIGNANT MELANOMA

Malignant melanoma is the most deadly, but least common, skin cancer. It typically arises painlessly from cells that produce the skin's pigment (melanin). Seventy percent of these cancers appear on normal skin and 30 percent arise from an existing mole that has undergone sudden changes (color, size, pain, itching, bleeding, swelling). The cancer first spreads locally to surrounding skin and if not treated, the tumor spreads downward into other areas of the skin, to lymph nodes, or internal organs. It strikes at any age. Sunlight is considered to be the chief cause of melanoma. Fair skinned, blue eyed, blonde or red haired persons are most vulnerable. Certain moles that may transform into melanomas can run in families. The incidence is growing rapidly.

SIGNS AND SYMPTOMS

Superficial melanoma: Small lesion with irregular border and red, white, blue or blue-black spots on trunk or limbs.

Nodular melanoma: Shiny, firm, pearly to black bumps or lesions anywhere on the skin.

Acral lentiginous melanoma: Dark lesions on palms, soles of feet, tips of fingers and toes, or mucous membranes.

Lentigo malignant melanoma: Large brownish spot with darker speckles on skin overexposed to the sun, flat freckle-like in appearance.

SURGICAL TREATMENT

Surgical removal of the tumor (with a wide margin of normal skin) and nearby lymph nodes may be necessary. This may require the use of a skin graft over the excision area.

DRUG TREATMENT

In advanced cases, the treatment may include anticancer drugs and immunotherapy. Following treatment, episodic evaluations to detect other melanomas or recurrence should be performed.

■ SQUAMOUS CELL CARCINOMA

Squamous cell cancer is a malignant tumor that arises from the midportion of the epidermal layer of the skin. It is more aggressive than basal cell cancer; it can spread (metastasize) to other locations including lymph nodes or internal organs. The tumor is usually painless, although pain may result if the lesion ulcerates or never completely heals. These are common in people with fair skin, blue eyes, blonde or red hair. Once discovered and treated, the patient should have regular medical examinations for possible recurrence.

SURGICAL TREATMENT

Surgical removal of the tumors and the skin around it, or occasionally x-ray treatment, may be necessary. With early treatment, the cure rate is about 95 percent.



SKIN INFECTIONS

The skin is the first line of defense and provides some protection from unwanted bacteria, viruses, fungi, and insect venom. If bacteria become established in a wound, they can cause a number of illnesses; bacteria or other foreign invaders may infect hair follicles or develop in the skin. They may be localized, superficial infections to widespread, life-threatening infections.

■ BOILS AND CARBUNCLES

A boil (furuncle) is a local infection in one or more hair follicles and usually is caused by staphylococci. A carbuncle is a cluster of boils that forms a connected area of infection under the skin. These are highly infectious and contagious. Boils are very common and can occur anywhere on the skin but are most likely to appear on the face, neck, armpits, or back of thighs. Carbuncles commonly appear on the upper back and on the nape of the neck and are less common than boils. Men are more prone to have them than women. Boils are not serious unless they are located near the nose, cheeks, forehead, or spine where they may spread to the brain (abscess) or the spinal column (spinal abscess). Permanent scarring can occur after the drainage of a boil. Never squeeze or lance a boil because infection might spread. Wash the infected area frequently with antibiotic soap, and prevent the drained matter from contacting other skin areas.

TREATMENT

Application of a warm tap water compress to the boil for about 30 minutes every few hours will either cause it to regress and disappear or, more likely to burst and drain.

DRUG TREATMENT

Oral antibiotics may be needed for carbuncles, a boil that persists, or is located on the face or spine.

SURGICAL TREATMENT

Surgical drainage is used for some boils and carbuncles.

■ CELLULITIS

Cellulitis is an acute inflammation of the connective tissue in the skin that results from a bacterial infection. It accompanies dermatitis, fungal infections, or injuries. Erysipelas is a severe form of a streptococcal cellulitis in which the infected area is red, shiny, and sharply defined. It is characterized by high fever and recurrence. Gangrene is possible from these infections.

TREATMENT

Elevating the infected area and applying hot, moist compresses to the site will help.

DRUG TREATMENT

Antibiotics may stop the infection. The pain may be severe enough to require an analgesic.



■ COLD SORES AND CANKER SORES

Cold sores (fever blisters) are very common infections. They can appear anywhere on the body but are most likely to be on the gums, the outside of the mouth and lips, nose, cheeks, and fingers. The infection is caused by a herpes simplex virus and is transmitted by contact with another person's active infection. Eating utensils, towels, and razors are other common sources.

Type 1 herpes simplex viruses are usually responsible for fever blisters. Type 2 is responsible for genital herpes. Symptoms may occur more than 20 days from the time of exposure. The acute stage lasts 7-10 days. The blister forms, breaks, and oozes; then, a yellow crust forms and finally sloughs off to uncover pinkish, healing skin. The virus reverts to a latent form inside the nerve cells and may emerge again on or near the original site. An itch or heightened sensitivity may be experienced preceding each attack. Recurrences are often triggered with menstruation, sun exposure, or any illness with fever.

A canker sore lasts for one to two weeks. In later stages of healing, it develops a gray membrane covering. If the sunlight tends to trigger the outbreak, use sun protection and lip balm that has sun blocking ingredients. Canker sores tend to recur. A tingling or burning sensation may precede an attack. This is followed by a red spot or bump where an ulcer will appear. Severe attacks may have additional symptoms of fever, tenderness, and swollen glands. Women are more susceptible to canker sores than men.

TREATMENT

Use cold packs to relieve pain, avoid spicy and acidic foods or saline mouth washes.

DRUG TREATMENT

Acyclovir (an antiviral medication) or other medications may be prescribed for oral intake in severe cases of herpes simplex.

■ FOLLICULITIS

This is a superficial infection of the hair follicles. These are common infections and are caused by staphylococci or fungi. They can occur anywhere on the skin as a result of irritation from clothing, hair follicle blockage, or injury. For example, shaving the neck or underarms can produce a rash of them that becomes chronic unless treated. Barber's itch is a staphylococcal infection of the hair follicles of the bearded area, especially the upper lip near the nose. Itching may occur a day or two before the pin-sized pustules erupt.

DRUG TREATMENT

Antibiotic or antifungal treatment is required for this disorder.



■ IMPETIGO

This is a fairly common superficial infection, usually caused by either staphylococcal or streptococcal bacteria (or sometimes both). It may occur on normal skin, but most often it invades the skin at the site of an abrasion, scratch, or insect bite. Physical contact, including scratching, can spread the infection to other parts of the body or even to other people. Towels and razors should not be shared. Skin contact should be avoided until the condition clears. The sores heal slowly but the cure rate is high.

DRUG TREATMENT

For minor infections, topical treatments with antibiotics is prescribed.

For more extensive infections, oral antibiotics are used to treat the common bacteria (penicillin, erythromycin). Several washings a day with antibacterial soap or cleanser softens the crusts so that they can be gently removed.

■ LYMPHADENITIS AND LYMPHANGITIS

This is the infection of a lymph node by bacteria, viruses, fungi, or other disease-producing microorganisms. Immediate treatment is essential. The infection can spread very rapidly, often in a matter of a few hours, and may be fatal.

SIGNS AND SYMPTOMS

Throbbing pain in the wound; malaise; fever of 100 to 104 degrees F; loss of appetite; sweating and chills; a red streak may be evident running from the site of the infection up the extremity.

TREATMENT

Apply hot, moist compresses or a heating pad, elevating the area (if possible) and take aspirin for discomfort and fever.

DRUG TREATMENT

If antibiotic treatment begins immediately, the disease is usually brought under control in a few days.

SURGICAL TREATMENT

Abscesses may require drainage.



■ SHINGLES (HERPES ZOSTER)

Shingles is a localized infection caused by the same virus that causes chickenpox. After an occurrence of chickenpox, the virus often becomes dormant within the nerve cells but can emerge years later as shingles. There is a sensation of tingling or pain as the virus moves along one of the peripheral nerves. It affects only the area of the face or body served by that specific nerve. A rash appears two to three days later as a result of the virus reaching the nerve endings in the skin. Over the next three to five days, the rash intensifies. The blisters dry up forming crusts that fall off in two to three weeks. The disease also occurs in those who have not had chickenpox. Shingles is not ordinarily a serious condition, although one may have continuing pain for months, or even years, along the peripheral nerve involved. This is called postherpetic neuralgia and occurs in 50 percent of those people who have had shingles and are over the age of 60.

TREATMENT


Soak the blistered areas with cool, wet compresses (with aluminum acetate solution), and apply a soothing lotion.

DRUG TREATMENT

Aspirin may help alleviate milder pain. Stronger pain medication is sometimes needed.

Corticosteroids are used to decrease the inflammatory response.

Oral antiviral medications given within 72 hours of the onset of the rash can be particularly helpful. Contact a health care provider.

 Click the key for updated
information on pain
management for Shingles



■ FUNGAL INFECTIONS

Fungal infections are caused by microscopic organisms that become parasites on the skin. The body hosts a great variety of microorganisms, including mold and yeast-like fungi. Athletes foot, jock itch, and ringworm of the skin or scalp are caused by mold-like fungi called dermatophyte. These fungi live on dead tissues of the hair, nails, and the outer layer of the skin. Susceptibility to infection by them is increased with poor hygiene, continually moist skin, and minor skin or nail injuries. Ringworm is a fungal infection that often affects children. The characteristic rings may be irregular and can expand beyond the scalp. This is very contagious and can be passed from shared hats, combs or brushes, and barber tools. It may also be possible to be infected from a pet or domestic animals. Some fungal infections are referred to as yeast or Candida infection, which causes diaper rash and oral yeast infections (thrush) that is common in babies. Chafing can occur in overweight people in the folds of the skin. Genital infections can be transmitted sexually. Susceptibility to yeast infection is increased with pregnancy, obesity, endocrine disorders (eg, diabetes mellitus), cancers (eg, leukemia), inherited or AIDS-produced immune deficiencies, and use of certain medications (eg, antibiotics, corticosteroids).

SIGNS AND SYMPTOMS

Itchy, red, soggy, flaking, and cracking skin between the toes; itchy, fluid-filled bumps on the sides or soles of the feet; extreme dryness with small, white scales on the sides or soles of the feet or the palms.

Itchy, red or grayish, scaling patches on the scalp with partial baldness or broken hairs; itchy, red, scaly, slightly raised, expanding rings on the trunk, face, or groin/thigh fold; red, moist, well-marked patches, rimmed with small, red bumps in armpits, navel, groin or buttock/thigh fold, under the breasts, or between fingers or toes.

Reddened areas with shiny patches in the mouth or cracks at the corners of the mouth; small, slightly scaling, pale patches on the upper body, neck, or face.

TREATMENT

For athletes foot, skin ringworm, and jock itch — apply over the counter antifungal agents (miconazole, clotrimazole, Whitfield's ointment, or Castellani paint).

Diaper rash in babies and chafing infections in adults are treated with over the counter antifungal agents together with keeping the area clean, dry, and dusting with antifungal powder.

The same medications are available in lozenges or mouthwash form for oral thrush infections.

DRUG TREATMENT

Antibiotics or an oral antifungal medication can be taken if the above medications are not helpful.



INSECT BITES

Most often, the reaction from an insect bite is temporary. However, if you are allergic to the venom, your entire body can be affected.

- ◆ The bite of a black widow spider feels like a needle prick. At first, there may be slight swelling and faint red marks in the area of the bite. Within a few hours, however, intense pain and stiffness begin. Other symptoms may include chills, fever, nausea, and severe abdominal pain. Generally, the pain lessens after a few hours but may return over the next two to three days.
- ◆ Bites of brown recluse and other spiders cause a mild stinging followed by local redness and intense pain within eight hours. A fluid-filled bump forms and then sloughs off, sometimes leaving a growing ulcer.
- ◆ Ant bites cause only redness and swelling. Fire ants, however, can produce many small, fluid-filled bumps that ulcerate like spider bites.
- ◆ Other biting insects inject their venom as they feed on you. These insects include mosquitoes, fleas, flies, and bedbugs. Stings by bees, wasps, and hornets inject venom that cause immediate pain and rapidly growing red bumps. A flying insect sting will subside and turn itchy in a few hours, unless you have an allergic reaction.

An insect bite or sting sometimes is easy to recognize because you feel the sting when it happens. If there is a severe reaction, knowing what bit you will help in determining the treatment. If you are allergic to bee or wasp stings, it can be life-threatening without immediate treatment. Known allergic persons should carry emergency treatment (epinephrine, antihistamines, cortisone) when outdoors.

TREATMENT

Mild insect bites should be treated with the application of ice cubes (to decrease pain) and over the counter cortisone cream or calamine lotion to relieve itching or inflammation.

Bee stings require immediate removal of the stinger. If faintness, listlessness, or shortness of breath occurs, seek emergency medical care immediately.

Black widow spider bites may require hospitalization and are treated by hot soaks, intravenous infusion of calcium gluconate (to relieve cramps), and injections of antivenin.

Brown recluse spider bites are treated with corticosteroid injections and surgical scraping of the ulcer.



THE SUN AND YOUR SKIN

Skin cancer is the most common form of cancer, and as a result, one in six of us will develop some form of it in our lifetime. Many people do not realize the serious consequences of sun worshipping, and consequently do not take even the most minimal precautions. Others have known about it for years, and will have beautiful, cancer-free skin for the duration of their lives.

Who is at risk for developing skin cancer?

1. Those with fair skin
2. Those who sunburn easily
3. Those who have naturally red or blonde hair
4. Those who spend a lot of time outdoors
5. Those with a history of skin cancer in their family

Skin Cancer Warning Signs

1. A spot on your skin that forms a scab, or repeatedly forms a scab which never fully heals.
2. A flat, scaly, reddish patch which appears after a sunburn
3. A mole changes size, shape, or color
4. A pearly colored, or waxy textured growth
5. Any skin irregularity that doesn't heal after 2-3 weeks

Types of Skin Cancer

1. Basal cell (about 75% of all skin cancers): cells are usually found on the face and ears. This is a slow growing cancer that rarely spreads to other parts of the body. If not treated, can destroy tissue and cause loss of eyes, ears, and nose.
2. Squamous cell (about 20% of all skin cancers): cells are usually found on the neck, face, ears, lips and hands, and may spread rapidly to other parts of the body.
3. Melanoma (about 5% of all skin cancers): cells are found in or near a mole or other dark spot in the skin. This type of cancer will spread rapidly to other parts of the body, and can be fatal if not treated promptly.

Basic Facts and Guidelines - Protecting Your Skin

1. Stay out of direct sunlight when the sun is strongest, between 10:00 a.m. and 2:00 p.m.
2. When out in the sun, cover your skin with protective clothing. Wear white loose fitting clothing...it keeps you cooler.
3. Wear sunscreen or sunblock
4. You can get sunburned, and resulting skin damage on cloudy days



5. You should wear sunscreen with at least a SPF of 15 every day, and all year round. Some cosmetic foundations have sunscreen included
6. Sunless tanning products work well, however they do not offer protection against sun damage. You must still use sunscreen or sunblock along with you sunless tanners

About Ultraviolet Light

Ultraviolet (UV) light is solar radiation. This radiation reaches the earth, and our skin, in the form of Ultraviolet-A (UVA) and Ultraviolet-B (UVB) radiation. Formerly, we were only concerned about the effects of the sunburn causing UVB rays. Now we know that it is actually the UVA that causes the deeper damage, breaking down the collagen and elastin fibers which gives skin its structure. When we use the term “damage”, we refer to visible things in the skin such as sunburn and tanning, as well as invisible, cellular damage which prompts things like wrinkles, leather skin, age spots, and skin cancer. Sun damage is cumulative, and doesn’t go away when your tan fades - it adds up over the years, even if you can’t really see it. Note the UVB rays taper off in the fall months, but UVA rays are present all year round.

The UV Index

The UV index is usually reported to the public during part of the weather report segment on the news. The National Weather Service provides the daily measurements to your local television and radio networks. The following chart will help you interpret what the index means, and allow you make good decisions on how to protect your skin for any particular day.

<u>UV Index</u>	<u>Level</u>	<u>Minutes of Sun Exposure Before You Burn</u>
0-2	minimal	60
3-4	low	45
5-6	moderate	30
7-10	high	15
11-15	very high	10

Sunscreens - Facts and Advice

1. The SPF (sun protective factor) in a sunscreen indicates the level of protection that a product will offer. The higher the number, the more protection you will receive. The SPF number tells you the relative length of time that you can stay in the in the sun before you burn (in comparison to using no sunscreen at all).
2. The difference between a sunscreen (chemical protection) and a sunblock (physical protection) is the amount of protection that you receive. A sunscreen offers protection, but still allows some UVB rays, and all UVA rays to penetrate your skin. A



sunblock provides a complete barrier from both UVA and UVB rays, and does not carry an SPF rating.

3. If you want protection from both UVA and UVB rays, look for a sunscreen that is labeled “broad spectrum”, and/or “UVA-UVB Protection.
4. Buy new sunscreen every year. Its effectiveness diminishes with age and heat.
5. Apply a generous amount, about an ounce (a palmful), and cover all exposed skin. If you do not apply enough sunscreen, the SPF effectiveness level could drop.
6. Apply sunscreen at least 30 minutes before sun exposure, to give it time to absorb into skin.
7. Re-apply sunscreen according to package instructions, and immediately after swimming or heavy sweating. There are also waterproof 6 and 8 hour formulas available, if you find that frequent re-application is inconvenient.
8. If you have sensitive skin or allergies, stay away from sunscreens and cosmetics containing oxybenzone and dioxybenzone (chemical additives which block UVA rays). Also stay away from products containing PABA or PABA esters, which block UVB rays. You might try instead a “physical” sunblock such as zinc oxide or titanium dioxide. These provide excellent coverage, are waterproof, and cause few allergic reactions. Also use zinc oxide for the particularly sensitive areas on a baby (on the nose, and below the eyes). For allergy sufferers, there are several brands of sun protection that work well: Ti-Screen SPF 19 and Chem-Free Sun Block SPF 17. If you have acne, two products that are safe to use are PreSun 30 Active or Shade 30 Active.
9. If you are taking any prescription medications and plan on using a sunscreen, you should check with your health care provider to ensure that your medication is compatible with a chemical sunscreen. If not, use a sunblock.
10. When swimming, you should use a waterproof sunscreen or sunblock, but you must reapply it. Waterproof or water-resistant sunscreen only maintains its SPF for about 40 minutes.

Shopping for Sunscreens (Ingredients)

For the most “serious” protection (protects against both UVA and UVB), look for a “broad spectrum” sunscreen which contains either Avobenzone (the most effective UVA protection available), Oxybenzone, or Dioxybenzone, along with at least one of the following ingredients:

1. Cinnamates (cinoxate or ethylhexyl p-methoxycinnamate)
2. Anthranilates
3. PABA (para-aminobenzoic acid)
4. PABA esters (glyceryl PABA, or padimate O, or padimate A)
5. Salicylates (octyl salicylate, homosalate)



OTHER SKIN CONCERNS

■ WOUND INFECTIONS

An injury that causes a break in the skin can cause an infection (cellulitis), tissue decay, or gangrene.

TREATMENT Wash a break in the skin and cover with gauze or bandages. If severe, seek medical attention.

■ ANIMAL BITES

These are most often cat or dog bites. Cat bites are the most likely to cause a bacterial infection. However, for either a cat or dog bite, it is essential to receive a tetanus injection if your immunization is not current. In all cases, prompt, thorough cleansing of the wound is essential. This often involves opening the wound and removing all areas of the infected tissue.

TREATMENT Antibiotics are usually given. Soak the wound in warm water and, if possible, elevate and immobilize the affected part.

■ CUTANEOUS ABSCESS

This is a pus-filled sore on the skin caused by bacteria, usually resulting from a minor wound.

TREATMENT Treatment consists of surgical opening of the infected area, thorough cleansing and irrigating the wound with saline, and packing with gauze for 24 to 48 hours (to absorb the infected discharge). Application of heat and, if possible, elevating the affected area will help to relieve the inflammation. Oral antibiotics or injections are prescribed, if necessary.

■ GAS GANGRENE

This results when a wound becomes infected by certain bacteria, usually *Clostridium*. The infection causes sudden pain and swelling around the wound, a moderate increase in temperature and a decrease in blood pressure with a rapid heart beat. A brownish-red fluid often drains from the wound. The tissue changes from pale to dusky and then becomes highly discolored as the infection worsens. If this is left untreated, stupor, delirium, coma, and even death may occur.

TREATMENT Antibiotics are given intravenously and surgical removal of the infected and surrounding tissue is essential.



■ HUMAN BITES

There are of two types of human bites: true bites (on purpose) or “fight bites” (eg, when the assailant cuts their knuckles on the victim’s teeth). The human mouth contains many bacteria and the saliva that enters the puncture may cause serious infections including rabies, hepatitis B, or HIV virus.

TREATMENT Prompt medical attention is important to prevent serious infection.

■ NECROTIZING SUBCUTANEOUS INFECTION

This is a severe infection caused by bacteria that infects the tissues through wounds. The primary symptoms are swelling, discoloration, and death of the surrounding tissue. If the infection worsens, the skin becomes discolored and gangrene may develop.

DRUG TREATMENT An appropriate antibiotic (from a culture to identify the organism causing the infection) is given. Often, the wound must be opened so that all infected tissue can be removed.



HAIR

The hair is composed of keratin, the same protein that makes up nails and the outer layer of the skin. Below the skin is the hair root that is enclosed by a sack-like structure called the hair follicle. A tiny blood vessel at the base of the follicle provides nourishment. A nearby oil-producing gland keeps the hair shiny and somewhat waterproof. Your hair color is due to melanin from pigment cells. Light reflected from the medulla creates the sheen and variation in the color tone. Like skin cells, hair grows and is shed regularly. Your hair says a lot about you. Americans spend a great deal of time and money on hair-care products to curl, color, spike, slick, restore, or remove their hair, which too often can cause damage. Damaged hair stays damaged until it grows out and is cut off. This can take many months since hair usually grows one-half inch per month. Hair needs gentle handling, especially when wet.

Avoid excessively tight braiding, buns, or ponytails — and do not roll your hair too tightly in curlers. If teasing and back-combing is done, it should be done gently. Too much exposure to sun, wind, or swimming pool chemicals will dry out the hair and cause it to knot. A healthy diet is also important. If done gently, daily shampooing will not damage your hair. Buy shampoos that are manufactured for your type of hair, such as oily, dry, or normal. After shampoo, apply a conditioner to lubricate the hair and minimize damage from brushing or combing. Towel dry gently by patting. Styling gels or mousse do not necessarily damage the hair. Hair bleaches, however, chemically alter the melanin in the middle layer of each hair strand. Persistent bleaching eventually damages even healthy, strong hair shafts. Hair dyes work more like paint and cover hair strands with color or mix with the melanin granules. Permanent waving is safe for healthy hair, but it increases dryness and splitting and can cause damage when done to excess.

■ FEMALE PATTERN BALDNESS

It is normal for a woman's hair to thin with aging. The general signs are thinning of hair all over the head and moderate loss of hair on the crown or at the hairline. Excessive hair loss is often an inherited trait. An interesting discovery is the effect of menopause on the hair. Many women see a thinning of the hair when the ovaries stop functioning. Hair loss also results from poor nutrition, pregnancy, internal or scalp disorders, hair damage, and medications.



■ HIRSUTISM

Hirsutism is the presence of too much hair. Among women, for example, hair on the cheeks, upper lip, underarms, or legs is considered by some to be unattractive. The amount of normal facial and body hair varies from one person to another. Hirsutism can result from endocrine disorders, hereditary or genetic causes, the use of certain medications, and for unknown reasons.

TREATMENT

Plucking is the most common cosmetic method. It is safe and works well if the problem is only a few scattered hairs. Use good tweezers to remove the hair by pulling it out in the direction it is growing. It is a temporary solution.

Shaving is popular, but a temporary method. Shaving can be irritating to the skin if it is done haphazardly. Women commonly shave their underarms and lower legs, but shaving is also safe for facial hair. Shaving does not make your hair grow faster, darker or coarser (more bristly), as many people believe.

Waxing is popular among American women for removing hair on the upper lip, chin, and legs. Wax is melted and applied to the area. After it cools and sets, it is quickly stripped off in the direction of the hair growth. The results last longer than other temporary methods because the hair is pulled out of the skin's surface. New hairs generally develop in about a month. Waxing can irritate your skin and it should be done by a trained cosmetician.

Hair Remover (Depilatories) are chemical agents that dissolve hair protein. You can buy them in foam, cream, or lotion form. Follow the directions, and test the product on a small area of the skin for possible irritation. Some women find depilatories inconvenient because they must stay on for 10 to 15 minutes. Do not use these products on injured or inflamed skin.

Electrolysis is the most permanent method of hair removal. A very fine needle is inserted into each hair follicle and a burst of electrical current is delivered to destroy the hair root. Hair grows back about 30 percent of the time. Infections, scarring, or discoloration may occur so this is best done by a trained technician. It may take several visits and is tedious and expensive, but may be a permanent solution to excessive hair.



■ MALE PATTERN BALDNESS

Male pattern baldness is very common with a receding hairline and moderate to extensive hair loss, especially on the crown of the head. The explanation for this pattern hair loss is probably genetic inheritance, which is not well understood. Baldness is also due to aging and is affected by hormones, which are the major determining factor for hair distribution in both sexes. If the hair loss is rapid, you may want to seek medical advice.

DRUG TREATMENT

Topical minoxidil may be prescribed.

SURGICAL TREATMENT

The most successful method for treating male and female pattern baldness is hair transplantation.

■ TEMPORARY HAIR LOSS

Sudden hair loss (alopecia areata) occurs in about two percent of the population. Typically, it starts with one or more circular bald patches. These bald areas are smooth and painless. The cause is unknown. In most cases, the hair grows back in 24 months. The outcome is worse if it happens early in life or if all of the hair is lost in a single episode. Even after the hair is lost, the roots usually remain alive. This suggests a possibility of new growth.

TREATMENT

This will depend on curing or controlling any underlying cause.

DRUG TREATMENT

Cortisone tablets (taken orally) sometimes promote hair growth. Unfortunately, long-term use causes side effects.

Minoxidil is another medication that was developed to treat high blood pressure and had unanticipated side effects of stimulating hair growth, sometimes in unwanted areas. For treating baldness, a topical lotion is used.



NAILS

The nails are produced from cells in the tips of the fingers and toes and are composed of laminated layers of a protein called keratin. Each nail grows toward the end of a finger or toe from a nail root that extends back into a groove of skin. Just in front of the nail root is the cuticle skin which is attached to the nail surface and helps protect the newer keratin cells being produced below. The nails can give the first signal of an illness.

■ FUNGUS INFECTIONS OF THE NAILS

Fungus spores can attach themselves to the bed of keratin cells that make up the nails. These microscopic plants can digest the keratin and live within it. The resulting infection, known as onychomycosis (tinea of the nails), can persist indefinitely. There are several ways of contracting the infection, including walking barefoot in public places or as a complication of athlete's foot or paronychia. The nails appear thick and lusterless with discoloration or crumbling edges. The fungal infection can be mild or severe with formation of blisters and painful swelling.

DRUG TREATMENT

A fungal infection of the nails is difficult to treat. Solutions, ointments and creams do not penetrate the nail. If painful or disfiguring, a systemic antifungal preparation may be prescribed. It is difficult to judge effectiveness because it takes six to twelve months for the nail to grow out.

■ PARONYCHIA

This is a superficial infection of the skin around the nail, most commonly caused by either staphylococci or yeast. It usually results from an injury such as biting off a hangnail, or is caused by manipulating or pushing back the cuticle. It appears as a red, swollen area on the skin next to the nail. When acute, it is painful and an infection may appear. The other form, a fungal infection, is most common among persons with diabetes mellitus and someone who has their hands or feet in water for long periods of time. The infection can extend around the nail and form an abscess causing the nail to become detached. If severe, it may spread into the tendons of the finger.

DRUG TREATMENT

Hot soaks to decrease the infection. These should be followed by topical application of an antibiotic or antifungal medication. Gentian violet solution (1%) is very helpful with fungal infections.

PROPER CARE OF THE NAILS

- ◆ Avoid biting, picking, or injuring the nails. Because they grow slowly, an injury can be present for many months.





- ◆ Wear rubber or disposable plastic gloves with cotton liners when exposed to detergents and chemicals that can weaken, split, and discolor the nails. Between uses, turn the gloves inside out to dry to prevent microorganisms from growing in the glove.
- ◆ Trim fingernails weekly. Nails that are smooth and cared for are less likely to be damaged. Use an emery board or sharp manicure scissors or clippers. If the nails are thickened, trim them after bathing. Bevel the edges with the fine side of the emery board.
- ◆ Never trim cuticles as it is a point of entry for bacteria and fungi and would promote infection. Use polish remover sparingly as it can weaken and dry the nails. Polish covers the nails and protects them — apply several thin coats rather than one thick coat. Touch up chips rather than removing all of the polish to avoid using the polish remover as long as possible.
- ◆ Avoid nail care products that are supposed to strengthen the nail. Artificial nails may produce reactions beneath the nails. Cuticle removers are corrosive. There is no scientific evidence that gelatin capsules, calcium tablets, or other vitamin or protein products improve and strengthen the nails.
- ◆ Cut toenails straight across and not too short. This needs to be done only about once a month because toenails grow more slowly than fingernails. They also tend to be thicker and the best time for trimming is after bathing. Take care of ingrown toenails which usually occur on the big toe — they form when the edge of the nail curls and grows into the soft underlying tissue. They are caused by improper cutting of the nails. If you have a slightly ingrown nail, pare off the excess nail and put tiny bits of sterile cotton under the affected edge to lift it up. Change the cotton daily until the pain and redness subside. If an infection develops, (evidenced by severe pain and a discharge of pus), see a physician.
- ◆ Do not attempt to pull off a hangnail. Pulling almost always tears into living tissue. Instead, clip it off neatly, leaving a slight angle outward. Lubrication may help prevent recurrence.

Remember, nail care products cannot give you healthy nails. The only way to help your nails look their best is to protect them from damage and irritants (chemicals and detergents), and then clean and trim them regularly.



WHAT TO DO

SEVERITY LEVEL	SYMPTOM	POSSIBLE DIAGNOSIS
 <p data-bbox="307 287 482 418">Seek Medical Help Immediately!</p>	<p data-bbox="521 311 882 378">Small lesion with irregular border with red or blue-black spots</p> <p data-bbox="521 402 801 469">Shiny, firm pearly to black bumps or lesions</p> <p data-bbox="521 493 843 560">Dark lesions on palms, soles of feet, tips of fingers and toes</p> <p data-bbox="521 584 865 651">Large brownish spot with darker speckles on sun-exposed skin</p> <p data-bbox="521 675 872 742">Red or purple lesions resembling a birthmark</p> <p data-bbox="521 766 893 906">Sudden pain and swelling around a wound, fever, decrease in blood pressure, rapid heart beat, brownish-red fluid from wound</p> <p data-bbox="521 930 965 1051">Throbbing pain in a wound, fatigue, fever, loss of appetite, sweating and chills, possibly a red streak running from the site of infection up the extremity</p>	<p data-bbox="1043 311 1229 378">Superficial melanoma (cancer)</p> <p data-bbox="1043 402 1250 469">Nodular melanoma (cancer)</p> <p data-bbox="1043 493 1250 560">Acral lentiginous melanoma (cancer)</p> <p data-bbox="1043 584 1250 651">Lentigo malignant melanoma (cancer)</p> <p data-bbox="1043 675 1236 742">Kaposi's sarcoma (cancer)</p> <p data-bbox="1043 766 1186 906">Gas gangrene</p> <p data-bbox="1043 930 1250 1051">Lymphadenitis and lymphangitis</p>
 <p data-bbox="307 1070 482 1201">Make an appointment to see your doctor</p>	<p data-bbox="521 1093 886 1197">A painless bump or flat lesion that ulcerates over time and is slow growing</p> <p data-bbox="521 1221 953 1288">Itchy, thickened, cracked skin (often in folds of elbows, back, or knees)</p> <p data-bbox="521 1312 872 1379">Redness and itching, blisters and draining sores</p> <p data-bbox="521 1403 958 1470">Itching aggravated by nervous tension, thickening patches of skin, scratch marks</p> <p data-bbox="521 1494 915 1561">Dry, red patches of skin covered with silvery scales, small scaling dots</p> <p data-bbox="521 1585 851 1652">Thickening and itching of skin at the ankles</p>	<p data-bbox="1043 1093 1265 1197">Basal cell carcinoma or squamous cell carcinoma (cancer)</p> <p data-bbox="1043 1221 1229 1288">Atopic dermatitis</p> <p data-bbox="1043 1312 1243 1379">Contact dermatitis</p> <p data-bbox="1043 1403 1222 1470">Neurodermatitis</p> <p data-bbox="1043 1494 1143 1561">Psoriasis</p> <p data-bbox="1043 1585 1222 1652">Stasis dermatitis</p>



Make an appointment to see your doctor

Severely itching scalp, often with infected scratchmarks	Head lice
Itching at night, thin lines on skin	Scabies
Localized rash with severe itching	Fleas
Intense itching, lice on body and clothing, nits in hair shafts	Lice
Itching at night, thin lines on skin	Scabies
Itching, presence of small hard lumps surrounded by a red circle	Ticks
Flat and scaly lesion, sandpaper surface	Actinic keratosis
An infection in one or more hair follicles	Boil or carbuncle
Fever blisters on genitals	Herpes simplex, type 2
Infection of hair follicles causing itching in beard, or areas where shaved	Folliculitis
Sore resulting from an abrasion, scratch, or insect bite (an infection)	Impetigo
Tingling and pain of one of the peripheral nerves. Later resulting in rash that intensifies and blister	Shingles (herpes zoster)
Itchy, red flaking and cracking skin between toes; itchy, fluid-filled bumps on feet; itchy, red scaling patches on scalp; red bumps in armpits, navel, groin, under breasts or between fingers or toes; reddened areas with shiny patches in the mouth or cracks at corners of the mouth; slightly raised expanding rings on skin; small scaling pale patches on upper body, neck, or face	Various fungal infections
A pus-filled sore on the skin	Cutaneous abscess



Make an appointment to see your doctor

Nails appear thick with discoloration and crumbling edges

Fungal infection

Red or pink itchy bumps and swelling

Hives



Try the home treatment outlined in this chapter

Recurrent, itchy rash with shiny, reddish-purple spots on the skin and gray-white ones in the mouth (metallic taste or burning in mouth)

Lichen planus

Blackheads or whiteheads on face, neck, shoulder or back. If severe, contact a dermatologist

Acne

White patches

Pigmented changes

Yellowish bumps beneath the skin (If severe, see physician)

Xanthelasma and xanthoma

Soft (usually tiny) skin-colored protrusions from the skin. These can be surgically removed if bothersome

Skin tags

Tender, itchy or overgrown scar. These can be surgically removed

Keloids

Red, shiny, and sharply defined area of skin accompanied with high fever and recurrence. If severe, it may require seeing a physician

Cellulitis

Fever blisters in mouth, on lips, or around nose

Cold sores and canker sores (herpes simplex, type I)

Excessive hair growth on woman's face

Hirsutism

Infection of the skin around the nail. If severe, call a physician

Paronychia

Areas of skin that become darker or white

Pigmented changes

