



Hyperpigmentation is when patches of skin get darker than the rest of the skin around them. It happens when the skin makes too much of the pigment melanin, which gives skin its color. It can happen to people with any kind of skin.

People with darker skin are more likely to have hyperpigmentation because their skin already has more melanin. Burns, bruises, acne, rashes, and other injuries to the skin can make more melanin, which can turn into dark spots.

Different kinds of **HYPERPIGMENTATION** are:

- Age spots, which are also known as "liver" spots
- Hyperpigmentation after an inflammation
- Pregnancy (during which melasma, or tan, brown, or gray patches can appear on the face)
- The disease Addison's (a rare disorder which causes decreased function of the adrenal gland and dark patches of skin)
- Antibiotics and birth control pills are two examples.
- Sun exposure
- Light therapy, laser therapy, or freezing.

HYPOPIGMENTATION

Hypopigmentation is a condition in which the skin is lighter than usual because it doesn't have enough melanin.

Some of the reasons for **hypopigmentation** are:

Burns, blisters, ulcers, chemical exposure, or infections that hurt the skin in the past

Conditions like psoriasis and eczema that make the skin red and itchy (atopic dermatitis)

Albinism, which is caused by the lack of an enzyme that makes melanin, is a rare genetic condition.

DEPIGMENTATION

When your skin loses all of its color and turns white, this is called depigmentation. Vitiligo is an autoimmune disease that causes smooth, white patches to show up on the skin. This is a common cause of depigmentation.

PIGMENTATION: ABNORMAL PIGMENTATION

Many people have birthmarks or other problems with their skin color. Some of the most common are pigmented birthmarks, macular stains, hemangiomas, and port wine stains. Albinism, melasma, vitiligo, and damage to the skin can cause pigmentation loss.

Birthmarks

As you might expect, these strange skin colors will show up soon after birth or right after birth. Even though most birthmarks are not cancerous, the ones below can be dangerous to your health.

Birthmarks that are colored

Ota's Nevus. This birthmark causes the face and sometimes the white part of the eye to turn blue or gray (sclera). Increased amounts of the pigment (melanin) and the cells that make it (melanocytes) in and around the eyes cause the change in color. People who were born with this kind of birthmark are more likely to get melanoma cancer of the eye or central nervous system. They may also get the eye disease glaucoma (increased pressures in their eyes). Because of this, they should see a neurologist and an ophthalmologist on a regular basis. Laser treatments and bleaching agents that are put on the skin, like hydroquinone, could be used to treat this skin discoloration.

Spots in Mongolia. Most of the time, these marks look bruised or blue and show up on a baby's back or buttocks. Most of the time, this discoloration goes away by age 4 and doesn't need to be treated.

Café-au-lait means "coffee with milk" in French. These are flat spots that are light brown to dark brown and have smooth or rough edges. About 10% of the general population has one or two of these spots, but they don't have any other conditions that are linked to them. Neurofibromatosis, on the other hand, can be caused by having 6 or more of these spots that are more than 0.5 cm in size. A laser can be used to get rid of these birthmarks for cosmetic reasons.

Nevi (moles) -These spots can range in color from flesh to light to dark brown. They might be flat or stand up. Most moles are benign, which means they are not cancerous and won't cause any problems. However, some moles can change into melanomas, which are a type of skin cancer. Because of this, moles should be checked for things like bleeding, pain, itching, changes in color, shape, symmetry, even edges, and size. ABCDE is a way to check on these moles:

A is for different. If you cut your mole in half, each half should look exactly the same.

B for border. Your mole should have a straight edge.

Color is C. It should only be one color. Your mole shouldn't have a lot of different colors, especially red or blue.

D for diameter. Most moles with a diameter of less than 0.6 cm are harmless. If your mole gets bigger, especially if it's more than 0.6 cm in diameter, you should get it checked out.

E for evolving or elevation. If your mole used to be flat but is now raised, or if it is bleeding, crusting, hurting, or itching, you should see a doctor.

If any of these things change about your moles, you should get them checked out. If you or someone in your family has had melanoma before, you should have a dermatologist check your moles often.

Vascular birthmarks (from blood vessels)

Macular stains. Macular stains are small red spots that can show up anywhere on the body. They are not raised. They are the most common kind of birthmark caused by blood vessels. They can look like "stork bites" on the back of the neck or "angel kisses" on the forehead and eyelids. The "angel kisses" usually go away after the child turns two, but the "stork bites" can last until the child is an adult. Because these marks are usually small and always safe, you don't need to do anything about them.

Hemangioma-

Hemangiomas are growths that are made of a bunch of small blood vessels. Some hemangiomas are a lot worse than others. They happen more often in women and babies born early. Most of the time, this birthmark is just a small mark on the face, body, or limbs (arms and legs). But hemangiomas can be big and grow quickly in some children during their first year of life.

There are two kinds of hemangiomas: strawberry, which are slightly raised and can show up anywhere on the body, and cavernous, which are blue birthmarks that are deeper. Most

hemangiomas will go away on their own, and half of them will be gone by age 5, 70% by age 7, and 90% by age 9.

If the hemangioma is small and doesn't hurt, it can be kept an eye on to see if it gets better. A hemangioma needs to be treated if it hurts, bleeds, ulcerates, or makes it hard to see, eat, hear, or go to the bathroom.

If it's necessary, there are different ways to treat hemangiomas, and each one has its own risks. You can inject or swallow corticosteroid medicine (by mouth). Corticosteroid drugs can cause problems like high blood pressure, high blood sugar, slow growth, or cataracts. Lasers can also be used to stop some hemangiomas from getting bigger and to heal them. Ulceration and scarring are rare but possible side effects of laser treatment. Also, both topical and oral beta blockers have been used to treat hemangiomas, but each has its own risks that you and your dermatologist should talk about carefully. In rare cases, a hemangioma can be removed by surgery.

The port wine stains –



A port wine stain is a flat pink, red, or purple mark that stays on the face, trunk, arms, or legs for life. Blood vessels that grow in the wrong way cause port wine stains (capillaries). The port wine stain may get raised and thicker over time. People think that having port wine stains on their eyelids makes them more likely to get glaucoma. Doctors have tried a lot of different treatments for port wine stains, such as radiation, tattooing, freezing, dermabrasion, and sclerotherapy. Laser therapy is the best treatment right now because it is the only way to get rid of skin capillaries without hurting the rest of the skin. Some medical conditions, like Sturge-Weber Syndrome, cause port wine stains on the face, vision problems, convulsions, intellectual disabilities, and maybe even paralysis. Klippel-Trenaunay Syndrome causes port wine stains, varicose veins, and/or too much bone and soft tissue growth on a limb. These are both very rare syndromes.

SKIN PIGMENTATION DISORDERS

Post inflammatory Hyperpigmentation



Post inflammatory hyperpigmentation is a common result of injury or inflammation, especially in people with darker skin. Lesions can last for months or years and can be very hard on a person's mental health. Post inflammatory hyperpigmentation looks like uneven, darkened skin in places where there has been an injury or inflammation in the past, after laser or light therapy, or after cryotherapy. Inflammation increases the production of prostaglandin, leukotriene, and thromboxane, which causes epidermal melanocytes to get bigger and more melanin to be made.

Most of the time, combination therapy works best. Treatment of the underlying condition (like acne or eczema) can help speed up recovery, but treatment may take weeks or months, and hyperpigmentation is slow to go away. Some combination products on the market include Kligman's formula (hydroquinone 2%, tretinoin [Retin-A] 0.025 %, and mometasone [Elocon] 0.1 %) and Tri-luma (fluocinolone 0.1%, hydroquinone 4%, and tretinoin 0.05 %). As a single treatment, azelaic acid (Finacea), dexamethasone, salicylic acid, glycolic acid peels, retinoids, and lasers can be helpful. Chronic hyperpigmentation may be helped by starting with hydroquinone and then having a series of chemical peels. With typical (2–4%) hydroquinone formulations, the risk of ochronosis (blotchy hyperpigmentation) is low. Topical retinoids, like 0.05–0.1% tretinoin or 0.10% tazarotene (Tazorac), are somewhat effective at reducing hyperpigmentation and the severity of the disease, and they are well tolerated. Cost and insurance coverage may change what kinds of treatments are available. 2–5

In a small study with people who were least likely to get dark spots after an injury, pretreatment with topical tretinoin didn't seem to help.

UVC Exposure/Melanogenesis /Suntan.

Increase in Melanin (The brown Pigments Present in the Skin) Production by Melanocytes (The cells in the basal layers of the Epidermis) Provides Protection against the sun)

Ephelides /Freckles.



Small Pigmented areas on the skin that becomes more evident after sun exposure, Occurs on all areas that area exposed to the sun especially on the face nose, arms and legs, Genetically determined .More frequently found in the fair skinned individuals which have been exposed to the sun and also red haired individuals.

Albinism. Albinism is a genetic disorder caused by the lack of the pigment melanin. This means that the skin, hair, and eyes don't have any color. Albinos have a bad gene that makes it hard for them to make melanin. Albinism can't be fixed. People with this disorder should always wear sunscreen because they are much more likely to get sun damage and skin cancer. Albinism can happen to people of any race, but Caucasians are most likely to have it. Also, almost all people with albinism have problems with their eyes, like poor vision or strange eye movements, and should see an ophthalmologist.

Melasma – Melasma, which is also called chloasma, is characterized by patches of tan or brown skin on the forehead, cheeks, upper lip, nose, and chin. People often call this condition the "pregnancy mask," but men can also get it. It can also happen to women who take birth control pills or estrogen after menopause. Melasma may go away after pregnancy, but if it doesn't, you can treat it with some prescription creams and some skin care products you can buy at the store. Lasers that work on pigment can also be helpful. Before you try to treat this condition on your own, you should make sure to get a proper diagnosis from a dermatologist. If you have melasma, you should always wear sunscreen because the sun will make it worse.

Changes in pigmentation caused by damage to the skin (post-inflammatory hyper- or hyperpigmentation). If you've had a skin infection, blisters, burns, or other damage to your skin, the pigmentation in the affected area may go down or up. Most of the time, this kind of change isn't permanent, but it can take up to a few months to go away or get better. Makeup can be used to hide the spot. When you have hyperpigmentation, or dark spots, prescription or over-the-counter lightening creams may help speed up the process of the spots fading. You should also wear sunscreen because the sun can make the dark areas last longer.

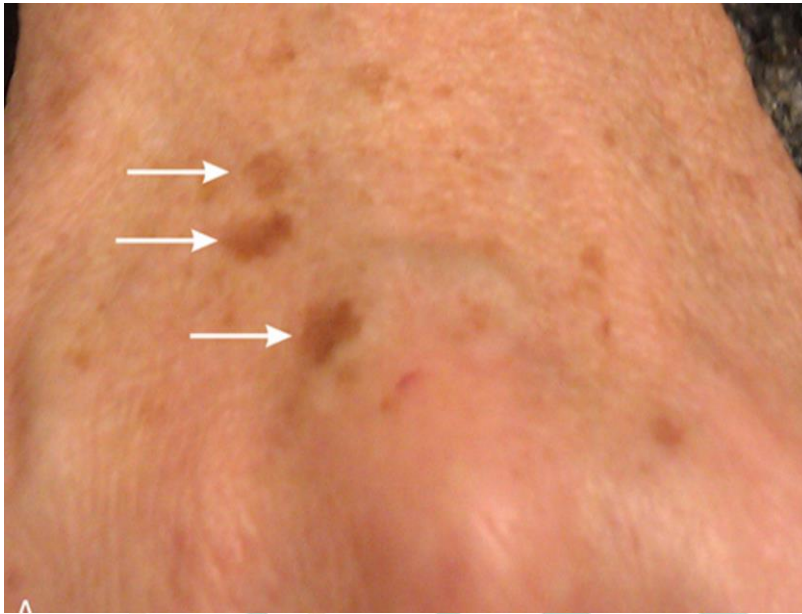
Vitiligo –



Vitiligo is a condition in which pigment cells (melanocytes) are attacked by the body's immune system, causing pigment loss. Vitiligo is also linked to diabetes, pernicious anemia, thyroid disease, and Addison's disease, which are all diseases of the immune system. Vitiligo causes patches of smooth, white skin, usually around the mouth and eyes or on the backs of the hands. Some people have these spots all over their bodies. There is no cure for vitiligo, but there are several ways to treat it. These include topical steroid preparations, topical immunomodulators, topical vitamin D analogs, dyes or psoralens (light-sensitive drugs) used in combination with ultraviolet A (UVA) light treatment, and the Excimer laser, which delivers targeted ultraviolet B (UVB) light. All treatments might not work for at least 6 months.

High-potency topical corticosteroids (betamethasone 0.1% or fluocinonide 0.05% ointment) and topical calcineurin inhibitors (tacrolimus [Protopic] and pimecrolimus [Elidel]) are mainstays for localized treatment of limited vitiligo. Systemic therapies such as psoralen and ultraviolet A, narrowband ultraviolet B (UVB), and systemic corticosteroids are useful for more widespread or treatment-resistant disease. These therapies generally require dermatologic referral.

Solar lentigines/Liver spot-



They are 1- to 3-cm hyperpigmented lesions on sun-exposed skin. Variegated leaves range from light yellow to dark brown. Face, hands, forearms, chest, back, and shins are common. Most affected are whites and Asians.

Solar lentigines are caused by acute and chronic ultraviolet exposure and mild basal melanocyte proliferation. Ephelides result from increased melanin production. Ephelides, café au lait macules, pigmented actinic keratoses, and lentigo maligna are differential diagnoses. Rapid growth or change, symptomatic lesions (pain, itching, easy bleeding, poor healing), atypical lesions, or lesions with suspicious features should be biopsied.

Hydroquinone, retinoids, chemical peels, cryotherapy, IPL, and lasers are used for treatment. Solar lentigines are best treated topically. Hydroquinone causes hypersensitivity and acneiform eruptions.

Solar lentigines are prevented by limiting sun exposure, using sunscreen, and avoiding sunburns, especially after age 20.

Table 1. Management of Pigmentation Disorders

<i>Disorder</i>	<i>Description</i>	<i>Location</i>	<i>Etiology</i>	<i>Treatment*</i>
Hyperpigmentation disorders				
Postinflammatory hyperpigmentation	Irregular, darkly pigmented macules/patches	Previous sites of injury or inflammation	Trauma, inflammation	Triple combination therapy,† hydroquinone, retinoids, azelaic acid (Finacea), chemical peels, laser therapy
Melasma	Pigmented, well-defined macules; light brown, brown, or gray	Face (centrofacial 63%, malar 21%, mandibular 16%) or forearms	Pregnancy, oral contraceptives, phenytoin (Dilantin), idiopathic	Triple combination therapy,† chemical peels, light or laser therapy, sunscreen
Solar lentiginos	1- to 3-cm well-circumscribed macules; light yellow to dark brown, variegated	Face, hands, forearms, chest, back, shins	Acute or chronic ultraviolet exposure	Triple combination therapy† with or without cryotherapy, hydroquinone, retinoids, chemical peels, cryotherapy, intense pulsed light, laser therapy
Ephelides	1- to 2-mm sharply defined macules, red or tan to light brown	Face, neck, chest, arms, legs	Childhood onset after sun exposure in susceptible individuals (skin types I or II)	Fades in winter months so treatment may be unnecessary; cryotherapy, hydroquinone, azelaic acid, chemical peels, laser therapy
Café au lait macules	1- to 20-cm tan to brown macules, epidermal, present at birth or early childhood	Most commonly trunk but may appear anywhere	Increased melanin in melanocytes/basal keratinocytes	Laser therapy, surgical excision
Hypopigmentation disorders				
Vitiligo	Hypopigmented macules and patches; sharply defined; 5 to 50 mm; coalescent	Face, hands, forearms, neck, genitalia, body folds, periorificial; lip-tip pattern	Unknown, possibly immune-mediated	High-potency topical corticosteroids (class II and III), topical calcineurin inhibitors, narrowband ultraviolet B, psoralen and ultraviolet A, systemic corticosteroids
Pityriasis alba	Hypopigmented, irregular patches; fine scale; itchy	Face, head, neck, forearms	Possible association with atopic dermatitis aggravated by sunlight exposure	Sunscreen, topical corticosteroids, tacrolimus (Protopic) ointment
Tinea versicolor	Hypopigmented or pink plaques; may be hyperpigmented; fine scale	Neck, chest, back, abdomen, proximal extremities	<i>Malassezia</i> spp. infection	Topical antifungals, topical adapalene (Differin) gel
Postinflammatory hypopigmentation	Loss of pigment (variable), macules, patches	Varies	Tinea versicolor, atopic dermatitis, pityriasis alba, psoriasis, guttate parapsoriasis, dermabrasion, chemical peels, intralesional corticosteroid use	Treatment of underlying condition when applicable

HOW TO GET RID OF HYPERPIGMENTATION

Most of the time, hyperpigmentation is harmless and may not even need to be treated. But some people may want to take it out. Those who do may find that different treatments and home remedies help.

Topically applied creams

Many people treat hyperpigmentation with treatments that go on the skin. Some ingredients in topical treatments can make the skin lighter, such as:

azelaic acid, cysteamine cream, vitamin C, hydroquinone, corticosteroids, kojic acid, retinoids, such as tretinoin, arbutin, glycolic acid peels, mequinol, niacinamide, N-acetyl glucosamine

Creams containing steroids and hydroquinone can take 3–6 months to affect the skin color.

Some creams that lighten the skin, like steroids and hydroquinone cream, have been linked to

Acne caused by steroids can cause skin rashes, irritation, stinging, inflammation, scarring, and a return of hyperpigmentation.

Skin that is too thin, skin that is too red, skin sores, xeroderma, or extreme dryness, an allergic reaction or contact dermatitis. Exogenous ochronosis, which is rare, is a condition in which the skin turns blue and purple after long-term use.

Before using skin-lightening products, people should talk to a doctor because they might make things worse. Always buy things from a reputable place and do what it says on the package.

You shouldn't use these products to make your skin lighter, Some cosmetic procedures can also lighten dark spots on the skin to make them look less like hyperpigmentation.

Some of the cosmetic treatments for hyperpigmentation are:

Chemical peels, laser therapy, and intense pulsed light

People who are thinking about getting one of these procedures should talk to a skin care specialist or dermatologist about the process and any possible side effects.

They might make hyperpigmentation worse by hurting the top layer of skin.

