



MELASMA INFORMATION

Melasma is a darkening of the skin that occurs mainly in women, especially women who are pregnant or taking external female hormones (such as birth control pills). In some women who develop it during pregnancy it is also called the mask of pregnancy (chloasma) because it tends to develop in the shape of a mask on the cheeks, upper lip, nose and forehead during the second or third trimester.

Causes

Radiation exposure, such as UV light, visible light, and infrared light (heat) at a time when an individual (usually a woman) is experiencing hormonal fluctuations, causes melanocytes, the pigment creating cells in the upper layer of the skin, to make more pigment. These hormonal fluctuations can be caused by pregnancy, birth control pills, hormone-containing IUDs, hormonal replacement medication, fertility treatments, or hormone fluctuations that accompany thyroid disease.

Other factors implicated in the development of melasma are certain medications, certain cosmetics and scented soaps, and anything that irritates the skin such as waxing or products. The light sources that have been implicated are tanning beds, IR saunas, and LED screens.

Who is Affected

Melasma is much more common in women than in men, and occurs most often during women's reproductive years. Persons of any race can be affected by melasma; however, melasma is much more common in those with light brown skin, especially women of Hispanic and Asian descent, who are from areas of the world with intense sun exposure.

Types

There are three types of melasma. Epidermal Melasma is dark brown in color with a well-defined border and appears obvious under black light. It sometimes responds well to light-based treatment, but should be pre-treated with topical medications. Dermal Melasma has a light brown or bluish color with blurry borders and appears no differently under black light. It doesn't respond well to light-based treatment, and can, in fact get worse. The pigment of melasma develops gradually as pigment is driven deeper into the skin, and the pigment cells themselves are structurally different from normal pigment cells. Mixed Melasma, the most common of the three, has both bluish and brown patches, shows a mixed pattern under black light and shows some response to light-based treatment, but needs pre-treatment with topical medications.

Treatment

Melasma is difficult to treat. Cases of resistant or recurrent melasma occur frequently and are almost guaranteed if strict avoidance of sunlight is not rigidly heeded. Heat alone, without direct exposure to ultraviolet light, can cause worsening or recurrence of melasma. Currently, the gold standard treatment for any melasma is:

1. **Sun Avoidance** as much as possible
2. **Wear tinted sunscreen with zinc oxide, titanium dioxide, and iron oxide** (iron oxide is usually listed as an inactive ingredient because it's what makes the sunscreen tinted) **every day, every month, every year, forever**. We have five sunscreens that contain all three minerals: EltaUV Clear SPF 46 for oily or acneic skin; Elta UV Daily SPF 40 for normal or combination skin; Elta UV Elements SPF 44 for dry or sensitive skin; Avène Tinted Compact SPF 50 for sunscreen with coverage and good water resistance, and IS Clinical Extreme Protect SPF 40 in multiple shades.
3. **Wear hats** in the sun
4. **4% Hydroquinone Cream and Physician-strength Retinoid are an effective pre-treatment for Epidermal and Mixed Melasma before light-based therapies or as an alternative to light-based therapies.**
 1. Hydroquinone is a prescription melanin-suppressing agent, available at our office. Hydroquinone should be used as directed, for the time prescribed. ****HYDROQUINONE SHOULD BE STOPPED TEMPORARILY 1 WEEK PRIOR TO CHEMICAL PEELS.**
 2. Retinoid cream, available in our office in several different strengths, increases cell turnover and accelerates pigment lightening. As with Hydroquinone, Retinoid cream should be applied as directed and **STOPPED 1 WEEK PRIOR TO CHEMICAL PEELS.**

5. **Perfect Derma Peels** should be combined with 4% Hydroquinone cream and a physician-strength retinoid to accelerate the affect. These peels should be done during the month off the hydroquinone.
6. **IPL** is a light-based therapy that is acceptable for Epidermal Melasma and some cases of Mixed Melasma if adequately pre-treated with 4% hydroquinone and physician-strength retinoid for 1 month. IPL helps the body shed the damaged melanocytes in the epidermis, but is unable to treat the damaged cells of Dermal Melasma.
7. **Tranexamic acid (TXA) tablets**, 650 mg tablet per day until the pigment clears and then again during the summer months (May-Sept) and during vacations or other times of intense sun exposure. TXA is not a new medication - it has been used extensively and safely at doses four times higher to treat heavy periods since the 1970s. This is an excellent option for patients with any of the three types of melasma, but especially Dermal Melasma, which is so difficult to treat.
8. Try to avoid:
 - a. Tanning beds!!!!
 - b. Hormone treatments, specifically ones that involve estrogen or progesterone.
 - c. Birth control, specifically oral contraceptive pills that contain estrogen and progesterone.
 - d. LED light from your television, laptop, cell phone and tablet. If you have an iPhone, use the dark setting
 - e. Makeup you find irritating to your skin.
 - f. Scented soaps.
 - g. Skin care products that irritate your skin.
 - h. Waxing, which can aggravate the melasma.