

Problem and *Solutions*



Problem:

Dark Under-Eye Circles

Idiopathic cutaneous hyperchromia of the orbital region (ICHOR), periorbital hyperpigmentation (POH), periorbital melanosis, orbital hyperchromia and infraorbital pigmentation are all terms used in the medical field to describe the darkening of the skin beneath the eyes. More frequently, however, this condition is referred to informally as *dark circles*, but also by more descriptive idioms such as *raccoon and/or panda eyes*.

Preceded only by acne, under-eye circles are the second most common skin care complaint relayed to skin care professionals that are frequently seen in both men and women.^{1,2} From a clinical perspective, this condition can, for the most part, be separated into two individual types: primary and secondary. The primary type is distinguished by bilateral darkening of the orbital skin and eyelid, which is not secondary to systemic or local diseases.³ Whereas, the secondary type tends to have a multifactorial pathogenesis which includes, but is not limited to, pigmentation resulting from genetics or environmental causes, periorbital edema, shadowing brought on by the loss of fat and collagen, and the thinning of skin as a result of normal aging.⁴ However, it is important to note that the appearance of under-eye circles can oftentimes be the result of shadows cast by puffy eyelids and hollows under the eyes – a normal byproduct of aging.

According to the Mayo Clinic, the most common causes of under-eye circles are: allergies; atopic dermatitis (eczema); heredity; lifestyle choices, such as stress (physical and emotional), smoking, excessive/chronic drinking of alcohol; nasal congestion; and sun exposure. Other causes may include hormonal changes brought on by pregnancy and/or menstruation, vitamin deficiencies, medication side effects, dehydration, a dysfunctioning liver, and lack of sleep – although, it is not unusual for under-eye circles to appear even after a person gets enough sleep.

It has been discovered that three different conditions can be attributed to discontented individuals suffering from under-eye circles: shadows, blues and browns. Shadows under the eye can be cast by puffy eyelids and hollows – the bulging contour of the lower lid; a normal byproduct of aging. The remaining conditions focus on the actual color of the circles present. With blue circles, the skin under the eye is very thin – almost transparent – as a result of the pooling of oxygenated blood showing through; they can get worse with age. Brown circles typically result from hyperpigmentation brought on by genetics, sun exposure, or chronic eye-rubbing.

It is difficult to clinically distinguish the cause behind under-eye circles without a thorough investigation into the individual's genetic history and their lifestyle choices and habits. Ultimately, the skin care professional should recognize that – although under-eye circles are a cosmetic problem – the tired, sagging, lackluster appearance of an individual's face can influence the overall quality of life they experience. Therefore, treatments for this condition may require a multidisciplinary approach which utilizes several different professional modalities.

Case Study:

During her lunch break, a 31 year old woman decides to visit the spa for a walk-in consultation. After looking around and reviewing the treatment menu, she mentions her main reason for coming in: under-eye circles. While talking with her, you take a visual assessment of her skin's pigmentation which is clearly pale, almost lackluster in appearance. During your conversation, you discover that she recently moved to the area for a new job. Although she loves her job, the process of becoming accustomed to it and its requirements has been stressful, leading to many late nights and long hours. This information compels you to ask her about her energy levels and she confesses that they are almost non-existent. By the end of your conversation, she decides to make an appointment for later on in the week in hopes that you will be able to assist her with diminishing her under-eye circles.

Solutions:



Dr. med. Christine Schrammek-Drusio, managing director of Dr. med. Christine Schrammek Cosmetics

"People with dark circles around the eyes often have a genetic disposition towards this effect. Direct causes can either be an increased pigment deposition or weakening elasticity of the fine veins. As a result, blood accumulates in the capillaries shining dark through the very thin skin. Stress and a lack of sleep can promote dark circles too. Every measurement that increases the micro-circulation such as soft massages, including lymphatic drainage or pressure point massage, or care products with special ingredients stimulating blood circulation can help to reduce dark shadows. Additionally, I would recommend using a special eye cream as home care treatment during the mornings and evenings. For further relaxation, I suggest exercising yoga or any other relaxing sport."



Tricia Yaniga, M.T. (A.S.C.P.), C.L.S.

"While there are many causes of dark circles in the periorbital area (improper makeup removal, hyperpigmentation, allergy inflammation), this well performed client consultation points directly to fatigue and lack of sleep. Dehydration and toxicity should also be considered as contributing factors. The skin around the eyes is the thinnest of all measuring only a half a millimeter thick. Couple this with the fact that the periorbital area has an extensive, highly developed capillary network; stagnating blood circulation shows through as dark circles. While advising more sleep is the best advice, it's not possible for this client's circumstance. Mechanical stimulation of blood circulation through gentle brushing, massage, and pressure point for drainage will provide improvement. It is crucial to remember that moving from the inner corner (from nose) outward (toward temple) on both the upper and lower eyelid encourages dispersion. Twice daily, use of eye cream containing soothing, decongesting ingredients (chamomile, lavender, horse chestnut, elder extract, vitamin K, et cetera) and a cream-based mask application will lighten the appearance. The client should try to exercise, drink more water, fewer caffeinated beverages, and invest in a good concealer until better sleep habits can be resumed."

As a skin care professional, what solution do you propose to treat this case study?



John D. Renucci, M.D. F.A.C.S., founder and CEO of Turo Skin

"Treating dark, under-eye circles is a common question that plastic surgeons field daily. Each patient is unique and will require individualized recommendations. Understanding the etiology of dark circles will help to determine the most effective treatment – surgical blepharoplasty is not always the solution. Firstly, late work hours, sleepless nights, and a stressful job can increase eyelid edema accentuating lower eyelid fullness, so stress relief and personal pampering will be a necessary first intervention. Secondly, pale, lackluster skin can have an exaggerating effect on eyelid circles. Establishing a simple, daily skin care routine will not only give her skin tone a healthy, vibrant appearance, but it will help to protect and maintain her youthful skin. Lastly, many people develop orbital fat herniation, which contributes to the eyelid bags. The hollow space below the full eyelid (nasojugal fold/tear trough) will be cast in a shadow resulting in a dark, under-eye circle. Careful placement of a tissue filler will soften the hollow and help to alleviate the under-eye circle."



Ben Johnson, M.D., founder of Osmosis Pür Medical Skincare

"Under-eye circles are not the product of leaky blood vessels but rather poor circulation. Therefore strategies that clot blood vessels (vitamin K) or reduce circulation (caffeine) are not advised. In most cases, the reason for declining circulation is stress, but kidney stress in particular is common. This is caused by caffeine, soda, ibuprofen, amongst other things. My recommendation is to stimulate activity that increases the circulation and restores balance in that delicate area. Topical oxygen will only worsen the problem as it needs oxygen from the body delivered in a controlled manner. I recommend niacinamide, zinc finger technology, and growth factors as prime options in treating the problem. Remember that genetically derived dark circles are not going anywhere and hydroquinone will only inflame the area."



Melanie Sachs, a certified Ayurvedic lifestyle counselor

"I suggest the cause of the dark circles for this young woman is the accumulations of toxins in the blood due to general stress, adrenal exhaustion, and poor quality of sleep. I would advise getting more hours of sleep, meditation and/or progressive relaxation, and a weekly relaxing spa treatment. For the long-term, a whole food diet high in fiber and rich in minerals, including all sort of greens and sea vegetables and drinking eight to 15 glasses of water each day would be helpful as well. Topically, she could apply cucumber and/or potato juice on cotton pads over the whole eye area for 15 minutes while resting in a calm environment; then rinse gently with tepid water."



Resources

- ¹ www.hellomagazine.com. "Dark under-eye circles: The causes and how to get rid of them" 22 May 2013. Web. 18 Dec 2013. <<http://www.hellomagazine.com/healthandbeauty/skincare-and-fragrances/2013052212698/dark-under-eye-circles-causes-treatment/>>
- ² Baumann L. Disorders of Pigmentation. In: Baumann L, ed. *Cosmetic Dermatology*. New York:McGraw-Hill 2004; p. 63-71.
- ³ Verschoore M, Gupta S, Ortonne JP, Sharma VK. Determination of melanin and haemoglobin in the skin of Idiopathic Cutaneous Hyperchromia of the Orbital Region (ICHOR): A study of Indian patients. *J Cutan Aesthet Surg*. 2012;5:176-82.
- ⁴ Roh MR, Chung KY. Infraorbital dark circles: Definition, causes, and treatment options. *Dermatol Surg*. 2009;35:1163-71.

