Cosmetic Camouflage for Scars

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Abnormal scars are the result of overproducing collagen, which causes the scar to be raised above the surrounding skin, leading to deformities that cause anxiety and negative impact on patients.

Treatment of scars, either to correct functional impairments or to correct the cosmetic appearance, has a positive psychological and social influence on the affected individual. Comprehensive management should include different techniques of camouflage to hide the disfigurement that causes existing scars, which includes the application of cosmetics that may provide practical technique to manipulate an unsightful abnormality.

Cosmetic camouflage provides a valuable resource to individuals with a wide range of skin conditions, especially scars. It is an essential tool for both dermatology and cosmetic surgery, and it is a method that has been created to lessen the suffering of those who are deeply affected by scarring. There are different ways to mask a disfigurement with cosmetics products, such as subtle coverage, pigment blending (color correcting), full concealment, and contouring. A variety of techniques are currently available to assist these patients in masking their irregularities and to give them the opportunity to improve their quality of life.

Scarring is a natural part of the healing process. After skin injury, modification in the healing process may result in the development of noticeable scars and decrease in functionality,[1] which usually reduces the individual's quality of life (QOL). Abnormal scars are the result of overproducing collagen, which causes the scar to be raised above the surrounding skin, leading to deformities that cause anxiety and a negative impact on patients. The presence of a visible skin lesion perceived as abnormal on the face or body can result in significant psychological impairment.[2] Scars and their appearance are always a personal matter; hence, they are all important no matter how big or small.

Different types of scars exist, such as well-healed mature scars, atrophic scars, hypertrophic scars, striae, and keloids. Atrophic scars are flat or depressed below the level of the surrounding skin and are generally small and often round with an inverted center (eg, acne scars). Hypertrophic scars are raised scars that stay within the boundary of the original wound, usually regressing spontaneously several months after the initial injury.[3] Stretched scars develop when the fine lines from the original wound become stretched and widened, and keloid scars are raised scars that spread beyond the boundaries of the original wound, invading into the surrounding skin. Often keloids continue to grow over time and recur after excision.[4]

Early wounds are often erythematous and may become brownish red and then pale as they mature, with the consistency varying from soft to hard. Most

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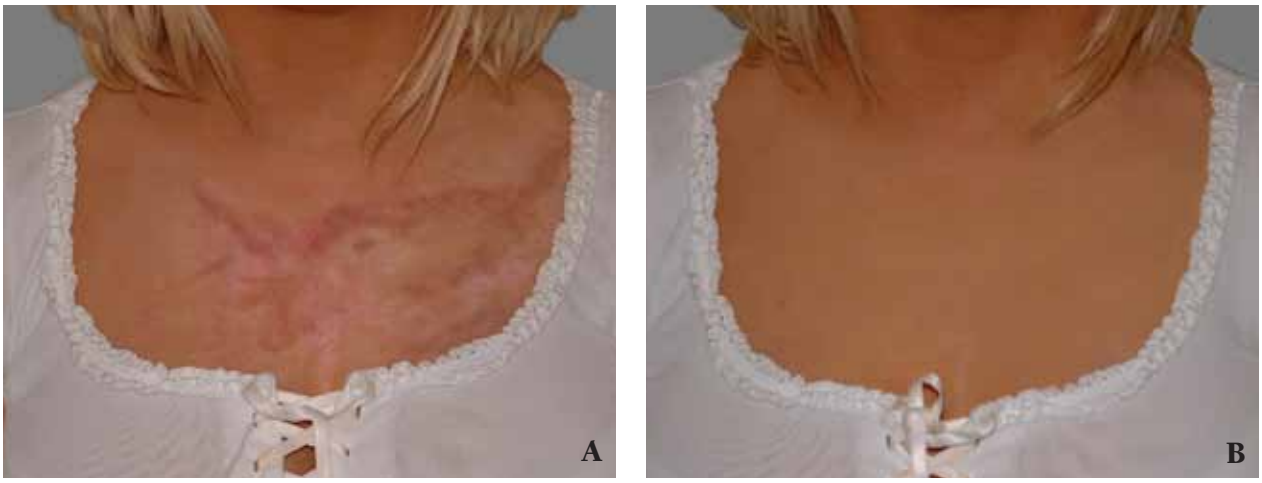

Figure 1. Patient with a graft scar, exhibiting pigmentation abnormalities before (A) and after cosmetic camouflage (B). Published with kind permission from the British Association of Skin Camouflage.[10]

scars have regular borders; however, some are irregular and possess a clawlike configuration as observed in some keloids.[5,6]

Treatment of scars, either to correct functional impairments or for cosmetic reasons, has a positive psychological and social impact on the affected individual. A comprehensive management should include different techniques of camouflage to improve the appearance of existing scars, which include the application of cosmetics that provide powerful and easy ways to manipulate the look of individuals with an evident deformity. Cosmetics are specially formulated to provide long-term (at least 8 hours) waterproof coverage of underlying pigment to minimize line defects and to recreate a more attractive appearance.[7] Cosmetic camouflage provides a valuable resource to individuals with a wide range of skin conditions, especially scars, resulting in an improvement in their QOL.[8] It is important to document the benefits of this therapeutic option.

This article compiles the benefits of scar camouflage given the options of cosmetic products and application techniques.

CAMOUFLAGE COSMETICS

Hypertrophic scars and keloids may lead to defects of the skin including that of pigmentation and contour.[9] Pigmentation abnormalities involve color changes in the skin. These defects can be corrected through special facials and foundations that cover pigment under the skin (Figure 1).[10] Contour defects represent areas of hypertrophy or atrophy, which pose as challenges to the patient to cover. Cosmetics with a glossy finish only accentuate contour abnormalities. A matte finish is usually more desirable and can be obtained by pressing loose powder into facial foundation.[11,12] Camouflaging is an art of illusion and requires skill, artistic ability, and experience.

Tedeschi et al[13] evaluated the use of corrective camouflage in 15 children and adolescents (age range, 7–16 years; mean age, 14 years). The majority of patients were female. Of the 15 patients, 6 had acne vulgaris, 4 had vitiligo, 2 had Becker nevus, and 1 each had striae distensae, allergic contact dermatitis, and postsurgical scarring. After application of the products, all patients and parents were satisfied with the results of the camouflage cosmetics. In this study, the satisfactory results demonstrated that camouflage is an effective, adjunctive therapy for use on unsightly scars.

There are different ways to mask a disfigurement with cosmetics products, such as subtle coverage, pigment blending (color correcting), full concealment, and contouring.

Subtle Coverage

Subtle coverage implies a light application that conceals but only moderately. A sponge applicator is used to modify the effort, and the cover cream application is strictly confined to the irregularity.[9,12,14]

Pigment Blending or Color Correcting

Pigment blending or color correcting describes the camouflage method that involves selecting a cover cream that matches the pigment of the patient's makeup foundation. Color correctors are used to disguise the yellowish shade of a bruise or the overall redness from a burn. Color correctors come in tints, and purple corrector blended with concealer neutralizes yellow skin tones, whereas green corrector yields a brown tone to neutralize redness.[9,11,13]

Full Concealment

Full concealment is a camouflage method that refers to complete, masklike coverage, extending beyond the limits of the site. Concealers are thicker and more opaque than regular foundation makeup. They effectively cover healed incision lines from surgery, scars, and bruises on the face or body. Concealers are usually creamy products and come in a variety of shades to match the natural color of the skin. Sometimes they are blended with color correctors to achieve a good color match. Cover creams can be applied to the skin with sponges and brushes or by patting them onto the skin with the middle finger and ring finger.[9,12,14]

Contouring

Contouring corrects the irregular surface contours by creating dimension using light and shadow. Dark colors make swellings or protrusions appear to recede, whereas light colors make surface depressions appear shallower. To achieve contouring, a highlighter is needed, which is approximately 2 shades lighter than the concealer, and a contour shadow, which is approximately 2 shades darker. Powdered blush-type products are best suited for contouring. It is important to remove camouflage cosmetics every night, especially on the face. Because of its waterproof nature, an oily cleansing cream or lotion may be needed to wipe off the makeup. Camouflage cosmetics used elsewhere on the body can be left on for 3 or 4 days before removing them and reapplying.[9,12,14] The types of scars that benefit from cosmetic camouflage are atrophic, hypertrophic, stretch marks, or burns.[15]

The most effective way to camouflage hypertrophic or atrophic scars is through the use of shading as previously mentioned. The underlying principle is that light areas project and dark areas recede. Depressed scars appear darker than surrounding areas due to shadows, and hypertrophic scars appear lighter due to the lack of shadows.[16] Thus, lighter cosmetics should be applied to depressed scars, whereas darker cosmetics can be applied to hypertrophied scars. Hypopigmented areas also can be camouflaged with cosmetics (Figure 2). Scar repigmentation can improve the appearance and texture of unsightly scars from accidents, burns, surgery, acne, vitiligo, cleft palette, mild stretch marks, and surgical cancer treatments. Generally, a year after a scar has healed, pigment can be implanted into the skin in a blended effect to match the scar to the surrounding skin color.[17] The process of camouflaging stretch marks is a simple process of blending the discolored scarred/stretched area with the natural pigment colors surrounding the affected area. The final result should dramatically reduce the appearance of scars, and in some cases, completely cover them. This

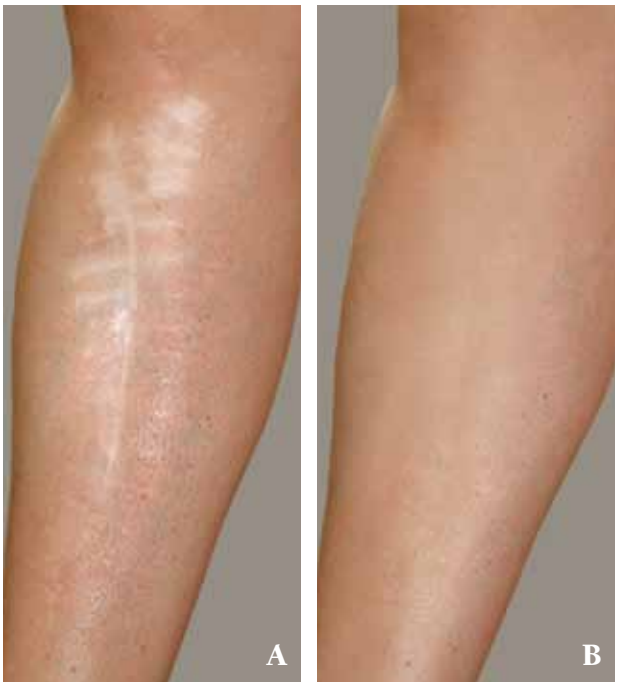

Figure 2. Patient with a hypopigmented scar before (A) and after cosmetic camouflage (B). Published with kind permission from the British Association of Skin Camouflage.[10]

camouflage procedure has been used to permanently conceal face-lift scars, stretch marks, surgical and accidental scars, and many others, all to help create a natural look.

Skill and experience on the part of the patient are vital factors in determining a good cosmetic result, and trial and error is encouraged. Professional paramedical camouflage artists and specially trained sales clerks can assist in the cosmetic selection, color blending, and application. When a surgeon's work has been completed, the camouflage therapist's work starts. Using knowledge of patient management and an excellent skill in makeup application, the patient is assisted in masking the irregularity. A camouflage therapist should identify the patient's needs (based on patient's perception of the problem), perform a physical assessment, analyze patient's self-care aptitudes, and elaborate an appropriate cosmetic treatment plan. There are many companies in the United States and Europe that manufacture cosmetics designed for camouflaging purposes (Table). One of the pioneers in skin camouflage is the British Association of Skin Camouflage, which is dedicated to providing comprehensive training for people who are interested in paramedical skin camouflage, and offer services to people with unsightly scars. It offers information on the latest news and techniques regarding skin camouflage.[10]

Scars, specifically dermatoses and unwanted tattoos, are the most common reasons for professional paramedical skin camouflage.

Cosmetic Products by the Number of Shades Available for Scar Camouflage

Product	Company	Number of Shades
Dermacolor	KRYOLAN Professional Make-up	49
Veil Cover Cream	Thomas Blake Cosmetic Creams, Ltd	27
Dermablend Cover Creme Foundation	Dermablend	21
Full Cover Concealer	Make Up For Ever	20
CoverBlend Concealing Treatment Makeup	NeoStrata	14
AmazingConcealer	AmazingCosmetics, Inc	12
Creamy Concealer	Bobbi Brown Professional Cosmetics, Inc	11
Covermark	CM Beauty	10
Keromask	Innoxa	9
IDEAL SHADE Concealer Stick	Avon Products, Inc	8
Camouflage Concealer	sue devitt, inc	8
True Concealer	Alison Raffaele Cosmetics	7
Concealing Creme	Smart Cover Cosmetics	6
Secret Camouflage	laura mercier	6
Invisible Touch Perfecting Concealer	Avon Products, Inc	5
Conceal Rx Circle Control Concealer	Physicians' Formula	4
boi-ing	Benefit Cosmetics LLC	3

The specialist products are designed to be long lasting and contain sun protection. Additional (oil-free) sunscreen can be applied under and over camouflage. Decorative cosmetics (makeup) can be worn over camouflage. Topical medication and silicone gel treatment can be used under the skin camouflage. All products are designed to mimic and blend in with one's natural skin color; however, the skin's texture will remain unchanged.

In an Australian study, 3 popular camouflage cosmetics were compared in a variety of skin conditions including keloids, vitiligo, and acne scars, for factors such as frequency of use, cosmetic appeal, and adherence and resistance to sweating and water contact.[18] Overall, Dermacolor was preferred over Covermark and Innoxa Keromask. Dermacolor had 24 shades at the time of this study, Covermark has 10 shades, and Keromask has 2 bases and 5 toners. Both Dermacolor and Covermark are available in department stores. The authors surmised that the larger availability of shades of Dermacolor was the main contributing factor to its preference. The main concerns of the patients were accidental wiping and removal of the cosmetic.[18]

Camouflage therapy is a system of cosmetic techniques designed for patients with psychological and physical suffering caused by their skin disfigurements. These techniques are used to assist them in coping constructively with their appearance and mental health.

CONCLUSION

Dermatologists are frequently queried by patients on skin care programs, types of cosmetics for their complexion, specific cosmetics and techniques to improve scars and general appearance. For that reason, it is important to be aware that in those cases of recalcitrant scars/keloids where medical treatments have failed to accomplish patients' expectations, other options are available. Cosmetic camouflage is an important tool for both dermatology and cosmetic surgery. It is a method that has been created to lessen the suffering of those who are disfigured by scarring. A variety of cosmetic techniques exists to assist these patients in making their irregularities as subtle as possible and to give them the opportunity to improve their QOL. We consider cosmetic camouflage to be a valid adjunctive method to be used in those with

unsightly scars and as an alternative for patients in whom conventional therapy is ineffective.

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