

OPTIMIZING OUTCOMES AND PREVENTING COMPLICATIONS OF NON-SURGICAL AND SURGICAL PROCEDURES WITH SUPPORTIVE SKIN CARE

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INTRODUCTION & OBJECTIVES

Awareness of potential risks and side effects of non-surgical and surgical procedures (e.g., infection, hypopigmentation, hyperpigmentation, and scarring) of dermatologic procedures, and proper use of preventive measures, will help reduce their incidence and optimize their management should they occur.

Supportive skin care management can help protect the skin barrier, control inflammation, and enhance natural healing^[1] to optimize final outcomes and thus influence patient satisfaction.

Objectives

To provide expert recommendations to optimize outcomes and prevent complications of non-surgical and surgical procedures with practical tips on supportive skin care.

MATERIALS & METHOD

A group of experts in cosmetic surgery and dermatology reviewed the published literature and discussed recommendations on how to optimize outcomes on various non-surgical and surgical procedures depending on the patient's skin type, skin phototype and extent of issues that need correcting.

RESULTS

Avoidance of sun exposure (UVB, UVA, visible light), and the use of broad-spectrum sunscreen with high protection against UVB (SPF 50+) and UVA rays (SPF/UVA-PF < 3 or PA++++), especially long UVA, is essential for all treatment modalities, both before and after the procedures, for the prevention and potential further improvement of pigmentation disorders^[2].

Individuals with darker skin are at higher risk of dyschromias, notably when treating melasma and post-inflammatory hyperpigmentation (PIH), which may be treated using aesthetic procedures but may also arise (especially PIH) as a complication of some procedures^[2].

If PIH occurs post-procedure (after surgery, laser, peeling), apply active photoprotection, soothing, healing and anti-inflammatory emulsions/balms, and sometimes strong topical corticosteroids and/or depigmenting agents may be required, or corrective procedures such as Nd:YAG laser toning if indicated.

The recovery time for healing and skin barrier repair will depend on the invasiveness of each procedure^[3].

TABLE: An overview of supportive skin care recommendations before, during and after non-surgical (lasers, peelings, injections and threads) and surgical aesthetic procedures (combined surgeries and skin grafts)

	PRE-PROCEDURE: PREPARES THE SKIN BEFORE TREATMENT	PERI-PROCEDURE: CLEANS AND PROTECTS THE SKIN	POST-PROCEDURE: HEALS AND PROTECTS THE SKIN AND IMPROVES SKIN OUTCOME
NON-SURGICAL PROCEDURES INVOLVING LARGE SURFACES OF SKIN Ablative fractional resurfacing techniques, vascular lasers, laser hair removal, medium depth peels, mesotherapy and platelet-rich plasma, percutaneous collagen induction, microneedling, thread lift devices, hyaluronic acid injections.	Apply broad-spectrum high protection factor sunscreen (SPF 50+ and UVA protection [SPF/UVA PF ratio of < 3 or PA++++]) for at least a month prior to the procedure. The skin must not be tanned at the time of treatment for vascular laser procedures, laser tattoo removal, laser pigmentation removal, laser hair removal. If needed, anesthetize the skin: <ul style="list-style-type: none">• topical anesthetic cream• or intralésional lidocaine injections• or appropriate nerve block procedures• avoid topical anesthesia for vascular lasers as it causes vasoconstriction and reduces the target. For ablative fractional resurfacing techniques, start anti-viral treatment the day before treatment of the perioral region, even if no prior herpetic infection. For vascular lasers, start anti-redness or soothing cream, anti-edema enzymes ^[4] or dietary supplements for edema prophylaxis the day before treatment. For laser hair removal, medium depth peels, mesotherapy and platelet-rich plasma, per-cutaneous collagen induction, microneedling, thread lift devices, hyaluronic acid injections, start anti-herpetic treatment the day before treatment for ≥ 1 week if history of recurrent herpes simplex infections.	High tolerance cleansing milk or micellar solution to remove make-up. Protect sensitive skin zones with barrier cream. Avoid alcohol solutions. Mist with thermal water or ice packs to cool and soothe the skin. Consider applying a high tolerance repair balm or cream immediately after the procedure: <ul style="list-style-type: none">• anti-redness• or soothing ingredients.	Healing and/or calming/moisturising balm adapted to the treatment type. In some cases, antibiotic ointment to prevent infection, twice daily for 5 days. Apply broad-spectrum high protection factor sunscreen daily 15 minutes before sun exposure, especially sunscreen with high UVA and Visible light protection for darker skin types ^[2] : <ul style="list-style-type: none">• re-apply every 2 hours or after sweating• avoid applying sunscreen to scabs/crusts.• avoid direct sun and wear a wide brimmed hat.• especially in darker skin types (risk of post-inflammatory hyperpigmentation). Could apply high tolerance, perfume-free corrective make-up after the appropriate recovery time, depending on the invasiveness of the procedure ^[3] . Remove make-up: <ul style="list-style-type: none">• high tolerance cleansing milk• or micellar water. Gradually (to avoid irritation) resume adjunctive post procedure skin care adapted to the cosmetic objective (depigmenting, antioxidant, hydrating): <ul style="list-style-type: none">• antioxidant serum and antiaging cream during the day• exfoliating serum or a depigmenting cream, if associated pigmentation problems, in the evening.
LOCALIZED NON-SURGICAL PROCEDURES Superficial peelings, injections, and threads.	Apply broad-spectrum high protection factor sunscreen (SPF 50+ and UVA protection SPF/UVA PF ratio of < 3 or PA++++). Skin cleansing cannot be overemphasized to ensure the peeling solution penetrates uniformly to give an even result. Avoid any skin irritation such as exfoliation. Use daily cosmetics adapted to the problem. Disinfect area to be treated using appropriate aseptic technique and products.	High tolerance cleansing milk or micellar solution to remove make-up. Protect sensitive skin zones with barrier cream. Mist with thermal water.	Healing or calming and anti-inflammatory cream adapted to the treatment type. Apply broad-spectrum high protection factor sunscreen daily. Use post-procedure adjunctive skin care adapted to the cosmetic objective (depigmenting, antioxidant, hydrating). <ul style="list-style-type: none">• antioxidant serum and antiaging cream (morning).• antioxidant or exfoliating serum and cream, or a depigmenting cream if associated pigmentation problems (evening).
SURGICAL PROCEDURES Sombined surgeries and skin grafts.	Prepare the surgical field: <ul style="list-style-type: none">• disinfect the skin with a cleansing solution.• rinse and dry.	Disinfect the treatment area using appropriate aseptic technique and products: <ul style="list-style-type: none">• povidone-iodine• hypochlorous spray• chlorhexidine provides prolonged suppression of bacterial growth, but do not apply near eyes and ears. Clean the closed wound with a cleansing solution. Apply an appropriate dressing.	Apply silicone sheets and gels. Cleanse the wound with thermal spring water. Depending on the case, advise gentle massage with a healing and soothing balm from day 15 for 3 months, until complete healing. Apply a healing balm with broad-spectrum high protection factor sunscreen to zones exposed to the sun, especially in darker skin phototypes (morning). Corrective makeup may be applied after the appropriate recovery time to any persistent erythematous areas. If severe inflammation or edema, use LED or fluorescence therapy postoperatively. Evaluate scar abnormalities early to decide if further treatment is required.

CONCLUSIONS

Supportive skin care management to prepare, cleanse and protect the skin, and post-procedure skin care with healing and anti-inflammatory ingredients are recommended to speed up regeneration and wound healing, prevent complications, minimize scarring and downtime, and improve outcomes.

Adjunctive skin care with antioxidant, anti-aging, and lightening properties may enhance skin benefits of the various non-surgical and surgical aesthetic procedures.

References

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