



## Case Report

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# Rhinoplasty in Thick Skinned Patients, is there a Role for the Dermatologist?



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## Abstract

Rhinoplasty in thick Skinned patients can be very challenging. This is of great importance for surgeons whom practice involves patients from the Middle east, South America, Africa and Asia as a good percentage of the population has thick skin. In dealing with nasal surgery for patients with thick skin, many challenges arise; the relatively inelastic skin-soft tissue envelope, small weak nasal cartilages leading to weak structural support, the tendency for scar formation and prolonged post-operative edema are all culprits to less than ideal results. In this review, I would like to highlight the importance of proper skin management in dealing with such cases. This includes pre-operative skin preparation and post-operative care.

**Keywords:** Rhinoplasty; Thick Skinned; Skin-soft; Epidermis; Surface Oiliness; Exfoliation; Ingredients; Skin Inflammation

## Introduction

### Pre-Operative Skin Preparation

All Patients benefit from a perioperative skin care program. However, this is crucial in thick skinned patients. The main objectives are to re-establish healthy skin conditions (as much as possible) and to diminish the skin's inflammatory response [1,2]. This can be achieved by addressing all skin layer; epidermis, dermis and subcutaneous tissue. Regarding epidermal layer, products that control surface oiliness, promote exfoliation, unclog pores, and decrease trapped sebum can be used. A simple daily regimen can be developed and tailored to each individual patient need, preferably in collaboration with a dermatologist. Suggested products include:

- A cleanser: According to patient skin type, a gentle cleanser or one that include active ingredients can be used. These include gentle exfoliants to unclog pores such as glycolic acid or salicylic acid and topical antibacterial such as benzoyl peroxide to control skin inflammation [3-5].
- Topical retinoids: Topical retinoids have been shown to modulate epidermal keratinization and differentiation and alter various transcription factors involved in cascades of skin inflammation [6].
- Sunblock and minimizing sun exposure in order to stabilize the epidermis against UV light injury [4].
- Additional treatments: These include moisturizers topical

antioxidant, topical antibiotics, micro dermabrasion, and in-office peels, depending on individual skin issues [7-9].

To achieve best results, a skin care regimen should be started 4-6 weeks before surgery. If this is not possible, they can be started at the initial consultation and followed until the patient is operated upon. To avoid hypersensitivity reactions from topical disinfectants and adhesive materials placed over the nose during surgery, products containing active ingredients should be stopped stop 5 days before surgery, to be resumed 10 days afterwards [2]. Regarding deeper skin layers, the rationale of topical and systemic treatments is to control sebum production, this will diminish size of sebaceous glands and will eventually decrease inflammation and swelling. This can be achieved predominantly by topical or oral retinoids [6,10]. Adjuvant therapeutic modalities include trichloroacetic acid TCA peels, photodynamic therapy, and intradermal botulinum toxin [11-13]. It is important to highlight that in severe cases where oral isotretinoin is used, no evidence supports delaying skin surgery. It can be stopped one week before surgery and restarted 2 to 3 weeks after surgery. If the patient wants surgery first, it can be started two weeks after surgery [2,14,15].

### Post-Operative Care

The rationale behind post-operative care is to decrease edema, minimize inflammation, and eliminate dead space. Simple measures such as head elevation, cold compresses, avoiding excessive sun exposure and strenuous exercise shouldn't be overlooked.

- a. Medications such as non-steroidal anti-inflammatory drugs can be used to control both pain and soft tissue swelling, oral antihistamines and nasal steroids for allergic rhinitis control, and judicious use of oral steroid can greatly reduce the extent and duration of post-operative edema [16,17].
- b. In regard to the above-mentioned skin care regimes, they should be followed postoperatively for at least 6-12 months after surgery to achieve best results.
- c. Taping: in patients with thick nasal skin, postoperative taping is essential. It helps to compress the skin envelope to the underlying framework, therefore eliminating dead space. The effects of nasal taping have been demonstrated recently by Ozucer et al. who showed that 4 weeks of post-rhinoplasty taping significantly decreased postoperative edema in the thick skin patient population. It is recommended to use hypoallergenic porous tape to minimize skin reaction from taping [18].
- d. Massage: Many surgeons advise thick skin patients to perform nasal massage three times a day for several months after tapes are removed. The patient should stand in front of a mirror and place extended index fingers on each side of the lateral nasal sidewall. Skin should be stretched, and fingers should exert pressure on the bones pushing everything slightly to the midline. This will help eliminate edema and dead space formation. Despite the popularity of this practice by many surgeons, compelling evidence is currently lacking to support this practice.
- e. Injectable steroids and 5-Fluorouracil: If supra-tip fullness develop postoperatively, different protocols are proposed; 0.1-0.2 ml of triamcinolone 10-40 mg/ml can be administered every 4-6 weeks until the intended definition is achieved. The injection should be placed between the dorsal frame and the soft tissue and not into the dermis [19-21]. In resistant cases, 5-fluorouracil, hyaluronidase or a combination of these agents can be used [22,23].

### Conclusion

In conclusion, dealing with thick skin patients undergoing rhinoplasty can be a daunting task. It is important for both the surgeon and the patient to understand the importance of pre and post-operative skin care as its contribution to a satisfactory result is as important as the surgical technique. The importance of having experienced dermatologist on board couldn't be overemphasized.

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