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# OPTIMISING RHINOPLASTY OUTCOMES IN PATIENTS WITH THICK SKIN

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**Abstract.** Rhinoplasty is one of the most in-demand procedures in modern plastic surgery, combining both aesthetic and functional goals.
This article explores current approaches to rhinoplasty, including open and closed techniques, the use of autografts, and the role of 3D planning in preoperative preparation. Special attention is given to the indications for surgical intervention, criteria for selecting the method of correction, and prevention of complications. Patient satisfaction with surgical outcomes and the impact of rhinoplasty on quality of life are also analyzed.
Modern trends in rhinoplasty aim to achieve natural results with minimal trauma while preserving nasal function. Performing rhinoplasty on patients with thick skin often presents a significant challenge. This article describes an assessment tool that classifies patients based on skin thickness and demonstrates the clinical application of this classification in preoperative evaluation.

**Keywords.** Rhinoplasty, skin thickness, cosmetic surgery, skin thickness, chemical peel.

**Introduction.**Undertaking rhinoplasty in patients with thick skin is a significant challenge as the results can be unpredictable. This is the first study to examine the effects of stratifying patients according to the thickness of their skin before plastic surgery. Practically speaking the benefits of this classification is applied to identifying patients who would benefit from preconditioning skin treatments as well as surgical manoeuvres to optimise their outcomes. TCA peels have a proven efficacy in optimizing skin and has been used routinely in plastic surgery to treat rhytids for many years. Traditional peels have used trichloroacetic acid or Croton oil in a preprepared formula with an indicator solution to measure depth of penetration. Courses are required to get training in this acid peel technique to avoid deep burns and scarring.

Surgery is just one aspect of achieving patient satisfaction. Independent clinics routinely refer patients in house for a range of non-surgical treatments to get the best result from plastic surgery. Preconditioning is the safest way to treat thick skin rather than undertaking surgical manoeuvres such as thinning the skin in theatre which can risk necrosis of the skin. Given the importance of skin, it is remarkable that many plastic surgeons do not combine plastic surgery with skin treatments. Current skin treatments used routinely before and after surgery include Acid Peels, Morpheus8, Lymphatic drainage and laser treatments. Combination treatment delivers the best results and this study aims to provide some structure to stratify which patients will benefit the most.

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***Factors Influencing Nasal Skin Thickness***

Patient age, ultraviolet (UV) exposure, genetics and prior trauma are factors which should be considered during the planning stage of rhinoplasty, due to their influence on the topography of the Soft Tissue Envelope (STE). Increased patient age is associated with decreased keratinocyte turnover, reducing its healing potential, as well as thinning of the dermis. The dermis of Asian and Middle Eastern patients has more numerous collagen fibres and larger fibroblasts, which explains its greater skin thickness. Collagen fibres are stacked more closely with ground substance in black skin compared to white skin. These differences between skin types are difficult to navigate, in Asian or Middle-eastern patients wishing for western shaped nose after rhinoplasty. The stratum corneum is comparable between skin types.

Thicker skin is associated with patients of African, Asian, and Middle Eastern backgrounds, who have additional reconstructive considerations in that there is a tendency for weaker cartilaginous support, making a defined tip even more technically challenging. Methods of optimising postoperative results in patients with a thicker STE have included intraoperative techniques such as thinning, altering the dissection plane as well as perioperative adjuncts such as skin contour sutures. Perioperative strategies also include oral or intradermal corticosteroid injections, chemical peels such as Trichloroacetic acid (TCA), and oral and topical isotretinoin. An accurate preoperative assessment of the nasal STE thickness is therefore crucial in operative planning, counselling patients, and in expectation management. Although computer tomography (CT) and ultrasound imaging can be used to assess the soft tissues, in practice most surgeons rely on clinical examination alone. There is evidently a broad range of practice in optimising the soft tissue envelope, with no clear superior technique, and no means of standardising outcome measures.

To our knowledge, there is also no standardised tool for assessing the nasal soft tissues preoperatively. We therefore propose a photo-numerical scale for classifying the nasal STE thickness prior to rhinoplasty. We have illustrated the application of this scale by grading patients and allocating thicker STE grades into receiving preoperative TCA peels, as part of the standard practice of the senior author (R.U.). The scale does not correlate with the Fitzpatrick skin colour scale which relates to the response to UV exposure.

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