

Expert survey on the efficacy, costs and healing of resurfacing procedures for facial static wrinkles

Pesquisa de opinião sobre eficácia, custos e cicatrização de procedimentos de resurfacing para rugas estáticas faciais

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ABSTRACT

A survey was conducted of 14 expert cosmetic dermatologists on the efficacy of facial resurfacing procedures. The objective of the survey was to compare the costs and benefits between the following techniques: fully ablative CO₂ laser, fractional ablative lasers, fractional non-ablative lasers, ablative fractional radiofrequency, microneedling, dermabrasion, medium depth peels, phenol-croton oil deep peels. The most effective option for the treatment of static wrinkles was the phenol-croton oil peel, ranked as most effective by 71.4% of experts. CO₂ laser was ranked as the second most effective, by 28.6% of experts. Regarding downtime, procedures ranked as fastest recovery were microneedling and fractional non-ablative lasers, with 42.9% each, followed by ablative fractional radiofrequency, with 14.3%. Fifty percent of experts thought that microneedling had the shortest recovery time. The least costly procedure for dermatologists to perform were medium-depth peels. 71.4% of the experts. This survey showcase the cost and perceived benefit of several facial resurfacing modalities, as measured by expert dermatologists. Of all treatments surveyed, medium-depth peels was thought to have the highest cost-efficacy.

Keywords: Chemexfoliation; Dermabrasion; Lasers; Needles; Phenol; Pulsed radiofrequency treatment

RESUMO

Foi realizada uma pesquisa de opinião entre especialistas em “resurfacing” cutâneo com a finalidade de compararem-se custos e benefícios entre as técnicas de laser de CO₂ totalmente ablativo, lasers fracionados ablativos, lasers fracionados não ablativos, radiofrequência fracionada ablativa, microagulhamento, dermabrasão, peelings médios e peelings de fenol-óleo de cróton. A opção mais eficaz para tratamento de rugas estáticas faciais foi peeling de fenol-óleo de cróton, ranqueado em primeiro lugar por 71,4% dos experts, seguido de laser de CO₂ totalmente ablativo, por 28,6%. Sobre “downtime”, os procedimentos elencados com recuperação mais rápida foram microagulhamento e laser fracionado não ablativo, com 42,9% cada um, seguidos por radiofrequência fracionada ablativa, com 14,3%. O período para recuperação completa dos efeitos colaterais e adversos foi percebido como mais curto no microagulhamento por 50% dos experts. Sobre os custos operacionais, o procedimento menos custoso foram peelings médios, de acordo com a opinião de 71,4% dos especialistas. Tais resultados apontam para melhor custo/benefício de procedimentos como peelings químicos e microagulhamento, de acordo com a opinião dos 14 especialistas brasileiros que responderam ao questionário.

Palavras-Chave: Abrasão química; Agulhas; Dermabrasão; Fenol; Lasers; Tratamento por radiofrequência pulsada

Dear Editors,

There are currently multiple resurfacing methods aiming at meeting the increasing demand for improvement of wrinkles that cannot be completely treated with injectable substances. A cost / benefit analysis can clarify the rationale for deciding for new treatment options at the practice and point to factors to be verified in controlled studies.

Letters

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A expert survey was conducted of cosmetic dermatologists on facial resurfacing treatments for static wrinkles (Glogau III and IV). Fourteen resurfacing experts were selected. All dermatologists were practicing cosmetic dermatologists, board-certified by the Brazilian Society of Dermatology.

The cosmetic dermatologists received a list of factors linked to the resurfacing procedures (effectiveness, total cost, downtime or time for complete re-epithelization, and time for complete recovery with resolution of adverse effects such as prolonged erythema, postinflammatory hyperpigmentation, pruritus and dry skin). The physicians also received a random list of eight resurfacing methods (fully ablative CO₂ laser, ablative fractional lasers, non-ablative fractional lasers, ablative fractional radiofrequency, microneedling, dermabrasion, medium depth peelings, phenol-croton oil peels) that should be ranked regarding each factor.

Regarding the factor *effectiveness*, the top-ranked method for the treatment of static facial wrinkles was phenol-croton oil deep peels, having chosen as the first option by 71.4% of the experts, followed by the fully ablative CO₂ laser, which has been chosen by 28.6%. The least effective option was non-ablative

fractional lasers, which were ranked 8th by 42.9% of the experts. Regarding the factor *downtime*, the procedures with the fastest recovery were microneedling and non-ablative fractional lasers, ranked as the top choice by 42.9% of experts, followed by ablative fractional radiofrequency, with 14.3%. The method with the longest *downtime* was the deep chemical peel, ranked as such by 57.1% of the specialists. The method with the shortest time for *complete recovery* from adverse effects was the microneedling procedure by 50% of the experts, followed by non-ablative fractional lasers (chosen by 28.6%) and ablative fractional radiofrequency (21.4%). The procedure perceived as having the longest time for *complete recovery* was the fully ablative CO₂ laser (57.1%). Regarding the *total cost* of the procedure, chosen the most cost-effective method was the medium peels, ranked as such by 71.4% of the experts, followed by deep peels and dermabrasion, both chosen by 14.3% of the physicians. The fully ablative CO₂ laser was deemed as the most expensive method by 64.3% of the experts (Figure 1).

While the best method would ideally offer great effectiveness, rapid recovery and low cost, the present study consistently suggested a “no pain, no gain” rationale permeating the

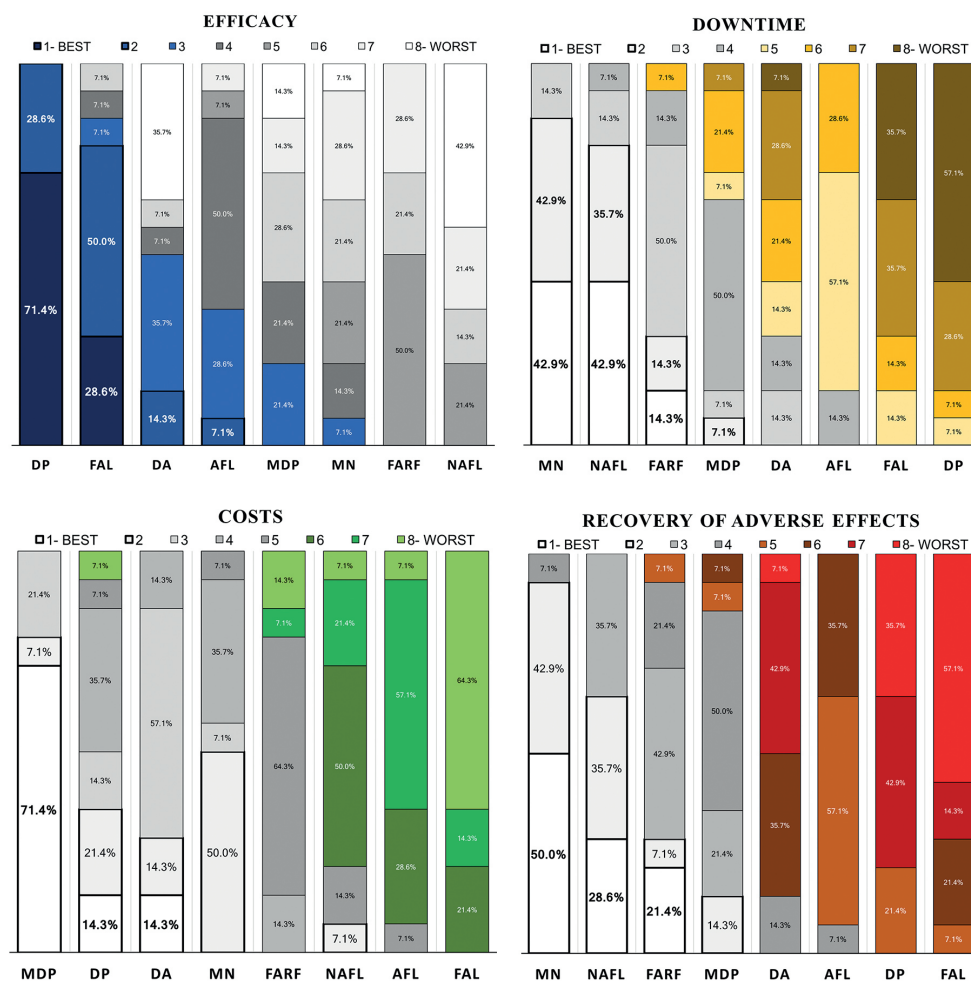


FIGURE 1: Results of a survey on expert opinions from 14 physicians specializing in facial resurfacing, regarding the effectiveness, total costs for the practice, recovery time and complete recovery from adverse effects (such as persistent erythema, postinflammatory hyperpigmentation etc) regarding eight usual methods of facial resurfacing aimed at treating static wrinkles: fully ablative CO₂ laser (FAL), ablative fractional lasers (AFL), non-ablative fractional lasers (NAFL), fractional ablative radiofrequency (FARF), microneedling (MN), dermabrasion (DA), medium depth peelings (MDP), and phenol-croton oil peels (DP)

comparison among the resurfacing procedures. Despite the faster re-epithelization of the microscopic areas of damage, fractional treatments seem to have limited effectiveness as compared to treatments that cover the entire surface of the skin. Ablative fractional lasers and microneedling were considered more effective than ablative fractional radiofrequency and non-ablative fractional lasers. Microneedling has the advantage offering reduced costs, shorter downtimes and faster recoveries from adverse effects. The results of the present survey regarding various methods of cutaneous resurfacing in terms of effectiveness and downtime, is in line with a previous publication conveying the opinion of a panel of three expert physicians.¹

These data can provide validation for the adoption of more cost effective procedures in light of a greater effectiveness,

according to the opinion of expert physicians. In this manner, it is possible to conclude that, for the purpose of improving static wrinkles, deep chemical peelings should be seen as the most successful option. For patients who cannot tolerate long downtimes and the expected side effects, the dermatologic surgeon should consider microneedling as compared to more costly options, such as non-ablative fractional lasers or ablative fractional radiofrequency. Taking into account that deep peels offer the longest already verified permanence of benefits² and that this method's safety profile has improved with the use of Hetter formulas,³ including this procedure in the syllabus of dermatologic surgery Fellowships and residency programs would be of great importance for the Dermatology discipline. ●

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Statistical analysis; approval of the final version of the manuscript; study design and planning; preparation and drafting of the manuscript; collection, analysis and interpretation of data; effective participation in the research guidance; intellectual participation in the propaedeutic and / or therapeutic approach of studied cases; critical review of the literature; critical review of the manuscript.

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