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## Fractional carbon dioxide laser resurfacing of rhytides and photoaged skin--a prospective clinical study on patient expectation and satisfaction.

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### Abstract

**BACKGROUND:** Fractional **CO<sub>2</sub>**-laser **resurfacing** is increasingly used for treating rhytides and photoaged skin because of its favorable benefit-risk ratio. A key outcome measure and treatment goal in aesthetic laser therapy is patient satisfaction. However, few data are available on patient-reported outcomes after fractional ablative skin-**resurfacing**.

**OBJECTIVES:** To compare patient expectations before and patient satisfaction after three fractional **CO<sub>2</sub>**-laser treatments and to correlate objectively measured wrinkle reduction with patient satisfaction after treatment.

**METHODS:** We investigated patient expectation and satisfaction using a 14-item questionnaire in 24 female patients. We assessed the skin-related quality of life and patient satisfaction with skin appearance. We profilometrically measured wrinkle size in four facial areas before and three months after treatment and investigated correlations between wrinkle reduction and patient satisfaction.

**RESULTS:** The high patient expectations before treatment (ceiling effect) were actually slightly exceeded. The average score of 14 items delineating patient satisfaction with laser treatment was higher ( $4.64 \pm 0.82$ ;  $n = 24$ ) than the respective expectations before treatment ( $4.43 \pm 0.88$ ;  $n = 24$ ). Skin-related quality of life and patient satisfaction with skin appearance had significantly improved after the last treatment. Patients dissatisfied with their skin appearance before treatment (mean  $2.1 \pm 1.5$ ; evaluated on a scale ranging from 0-6) were satisfied (mean  $5.1 \pm 1.2$ ) ( $P < 0.001$ ) with skin appearance at the follow-up. Patient satisfaction with skin appearance was not correlated to the profilometrically measured reduction of wrinkle size of any facial area.

**CONCLUSIONS:** Our results show high patient satisfaction with ablative fractional skin **resurfacing**, also regarding improved self-esteem and self-satisfaction despite high pre-treatment expectations. Skin-specific quality of life had significantly improved. Thus, this treatment modality can be recommended for patients with photoaged skin wishing to improve skin appearance.

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**KEYWORDS:** ablative fractional skin **resurfacing**; patient benefit; patient-reported outcomes; skin aging; wrinkles



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