Patient Reported Scar Outcomes Following the Modified Teardrop-shaped Direct Brow Lift

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THE EZRA CLINIC

References

1. O'Doherty M, Joshi N. The "bespoke" upper eyelid blepharoplasty and brow rejuvenation. Facial Plastic Surgery. 2013 Aug;29(04):264-72.
2. Butler DP, Nagendran S, Malhotra R. Revisiting the Direct Brow Lift in Patients With Facial Palsy: 4 Key Modifications. Ophthalmic Plastic & Reconstructive Surgery. 2021 Mar 1;37(2):179-82.
3. Durani P, McGrouther DA, Ferguson MW. The Patient Scar Assessment Questionnaire: a reliable and valid patient-reported outcomes measure for linear scars. Plastic and Reconstructive surgery. 2009 May 1;123(5):1481-9.

Aims

The direct brow lift is an effective method of raising the brow. We describe a technique of raising the lateral brow to minimise visible scarring and reviewed the patients' experience with scarring.

Previous Modifications

The major drawback of the direct browlift is visible scarring. Due to this many modifications of the technique have been described in the past.

Included amongst these are:

Figure 1- crenelation of the incision to break up the linear scar. (1)

Figure 2- counter bevelling of the incisions which has the effect of raising the wound edges and preventing indentation. (2)



Figure 1

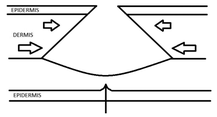


Figure 2

Surgical technique

The modified procedure included making a teardrop shaped incision over the lateral third of the brow just superior to the brow hairs. Incisions are counter bevelled to evert the wound edges. (2)



Figure 3: A teardrop-shaped ellipse of skin is marked over the lateral brow with the widest point over the desired area of maximal lift.

Method

Patients underwent this procedure by the senior author (D. Ezra) over a 5-year period (January 2017 - December 2021). They were identified, phoned and asked to complete the validated Patient Scar Assessment Questionnaire (PSAQ). Patients were contacted at least 6 months following surgery to allow for scar maturation. Patient demographics, concurrent eyelid surgery and complications were recorded.

Patient Scar Assessment Questionnaire

The domains of the PSAQ included appearance, symptoms, consciousness, satisfaction with appearance and satisfaction with symptoms.

- **Appearance**: scar size, colour relative to surrounding skin, height, width, radiance and texture.
- **Symptoms**: perceptions of pruritus, pain, discomfort, numbness, atypical sensations and records of how troublesome these symptoms are to the patient.
- **Consciousness**: preoccupation with their scars and perception of noticeability to self and others.
- **Satisfaction domains:** patients' satisfaction regarding the appearance and symptoms of the scar.

Each subscale consists of a set of items with 4-point categorical responses, scoring 1 to 4 points (with 1 point assigned to the most favourable category and 4 assigned to the least favourable). Each domain results in a composite score with higher scores reflecting a poorer perception of the scar related to the domain being evaluated. Each domain also contains a single global assessment item that is not included in the composite subscale score but is used to provide a clinically meaningful descriptor. (3)

Results

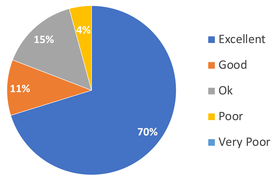
Suitable patients identified (76) → Patients who completed questionnaire (47) (62%)

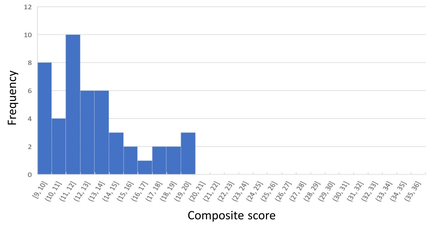
Patients contacted with a median follow-up time of 16 months (range 6-64 months). With 77% of them having concurrent eyelid surgery (69% underwent upper eyelid blepharoplasty, 6% ptosis surgery and 30% lower eyelid blepharoplasty).

- **Age**: The mean patient age was 57 years (range 26-79).
- **Gender**: 79% (37/47) were female.
- **Fitzpatrick skin types**: 11% Type 1, 34% Type 2, 26% Type 3, 21% Type 4, 9% Type 5 and no Type 6.

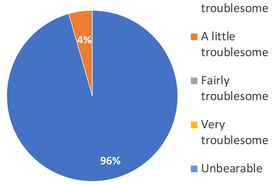
Demographic factor	Significant affect on scar outcomes (Y/N)
Age	Y
Gender	N
Fitzpatrick skin type	N

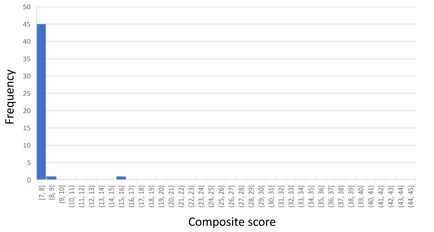
Appearance



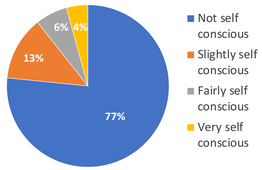


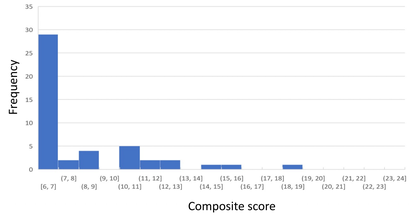
Symptoms



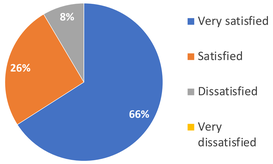


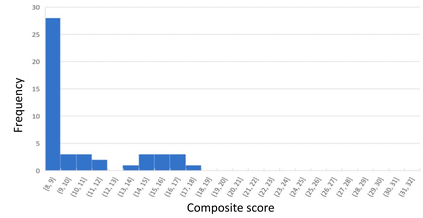
Consciousness



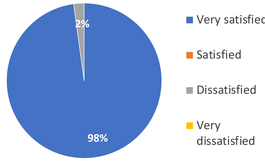


Satisfaction with appearance





Satisfaction with Symptoms



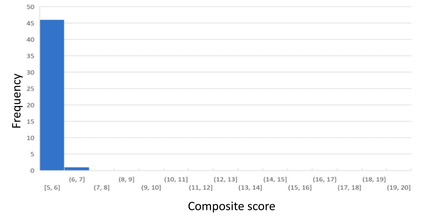


Figure 4:
Pie charts displaying the global assessment item of the five domains.
Histograms displaying the normalised composite scores with lower scores representing a more favourable outcome for each of the 5 domains.

Conclusion

The modified teardrop-shaped direct brow lift proved to have excellent cosmetic results. Demonstrating the capability of producing a brow-lift which is narrow, colour and texture matching with surrounding skin, short, flat in addition to being asymptomatic 6 months following surgery. It can be successfully employed alone or as an adjunct to surgical blepharoplasty.

Patients over the age of 50 were more likely to report positive outcomes. It was shown that gender and Fitzpatrick skin type had no affect on scar outcomes, though it is worth noting no patients in the study had type 6 Fitzpatrick skin type.