PUAWS: "Pelin's Up and Away" Suture (a Variation of the Brassiere Suture) as an Adjunct to Upper Blepharoplasty

Pelin Kaynak[1], Sultan Kaya Özçelik[2], Gözde Derin Şengün[3]

[1]İstanbul Nişantaşı University Faculty of Medicine, Department of Ophthalmology, İstanbul, Türkiye
[2]University of Health Sciences Türkiye, Şişli Hamidiye Etfal Training and Research Hospital, Clinic of Ophthalmology, İstanbul, Türkiye
[3]University of Health Sciences Türkiye, Kartal Dr. Lütfi Kırdar City Hospital, Department of Ophthalmology, İstanbul, Türkiye

Dear Editor,

Traditional upper eyelid blepharoplasty focuses on excising redundant skin and fat; however, it does not consistently ensure long-term contour stability or symmetric eyelid positioning.[1] The brassiere suture technique was introduced as an adjunct to upper blepharoplasty to support the upper eyelid contour and prevent and manage postoperative upper eyelid temporal hooding by anchoring the orbicularis oculi muscle to the superior lateral orbital rim periosteum.[2] In the current report, we present a modified version of the brassiere suture in which the orbicularis oculi muscle at the upper edge of the blepharoplasty incision is fixed to a more superior and temporal (up and away) periosteal point above the superotemporal orbital rim to provide enhanced temporal support. This study evaluated the outcomes of upper blepharoplasty using this method in three patients and was conducted in accordance with the Declaration of Helsinki.

Standardized preoperative and postoperative photographs of three patients (two female, one male) who underwent upper blepharoplasty with our modified brassiere suture were evaluated. Their ages were 38, 49, and 56 years, resulting in a mean age of 47.7 years. The exclusion criteria were a history of thyroid eye disease, ptosis, blepharospasm, facial nerve paresis, previous upper facial surgery, or trauma. Measurements were performed using ImageJ software (U.S. National Institutes of Health, Bethesda, Maryland, USA). Two authors independently evaluated the ImageJ results and the mean values were recorded. No discordance occurred between the observers. For each patient, tarsal platform show (TPS) and brow fat span (BFS) were quantified at three standardized anatomic landmarks: the mid-pupillary point, the lateral corneal limbus, and the lateral canthus. TPS was measured as the distance between the upper eyelid margin and the crease, and BFS was measured as the distance from the superior brow hairs to the crease.

All participants provided informed consent before undergoing the procedure. The edges for placing suspension sutures between the lateral eyebrow region and the temporal region of the upper eyelid were identified and marked. Local anesthesia was achieved by the subcutaneous administration of 3-4 mL of 2% lidocaine with epinephrine (1:80,000) (Jetokain, Adeka, Türkiye) into the upper eyelid. An upper blepharoplasty was performed with the excision of the redundant skin. Fat pad excision was performed if necessary. The pretarsal orbicularis oculi muscle was largely preserved, excluding the lateral third of the eyelid. Blunt dissection was carried out beneath the orbicularis muscle

Keywords: Brassiere suture, dermatochalasis, upper blepharoplasty

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Address for Correspondence: Sultan Kaya Özçelik, University of Health Sciences Türkiye, Şişli Hamidiye Etfal Training and Research Hospital, Clinic of Ophthalmology, İstanbul, Türkiye
E-mail: sultankayaa@windowslive.com
ORCID-ID: orcid.org/0000-0002-8665-4755

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and continued beyond the superior orbital rim to where the orbicularis fibers would be attached to the periosteum. The dissection plane was safe, with no major blood vessels or nerves in close proximity. Suspensory sutures were adjusted individually and applied to the region between the lateral limbus and the lateral end of the eyebrow, with care taken not to cause asymmetry. Following the preoperative marked alignments, a 5-0 Vicryl (Ethicon, Johnson & Johnson, USA) suture was initially passed through the orbicularis oculi muscle adjacent to the upper skin margin and then through the periosteum, located 7-8 mm superior and 5-7 mm lateral to the superior orbital rim (Figure 1). Two or three sutures were applied to the lateral third of the eyelid until sufficient augmentation of the subbrow soft tissues was achieved. Skin closure was subsequently performed with a 6-0 Prolene (Ethicon, Johnson & Johnson, USA) suture, which was removed between one week and ten days following surgery.

This modified brassiere suture technique is referred to as Pelin's Up and Away Suture (PUAWS). Three patients who underwent surgery using this technique had a postoperative follow-up of at least six months. The preoperative and postoperative appearances of these three patients are presented in Figure 2. A noticeable improvement in the temporal brow position in primary gaze was observed along with an increase in TPS and TPS/BFS ratio. The mean preoperative TPS was 2.35 mm (range: 0.71-5.15 mm) and mean postoperative TPS was 4.09 mm (range: 1.87-8.17 mm). The mean preoperative TPS/BFS ratio was 0.12 (range: 0.04-0.23) and the mean postoperative TPS/BFS ratio was 0.17 (range: 0.10-0.24). A summary of the patient data is shown in Table 1.

During internal browpexy, the reference point is set according to the brow position. In the PUAWS technique, we did not use a reference point. The orbicularis oculi muscle was simply sutured to the periosteum, similar to the brassiere technique, but instead of applying the sutures to the superior orbital rim, PUAWS sutures were applied 7 to 10 mm superotemporal to the orbital rim, enhancing the temporal support. We did not observe any postoperative asymmetry or significant complications, including nerve-related complications.

In 1997, Zarem et al.[3] described browpexy by lateral orbicularis muscle fixation as an adjunct to upper blepharoplasty intended to correct brow ptosis and enhance the tarsal sulcus. Later, modifications of the procedure focused on volume preservation. Goldberg described a "brassiere suture" technique in which the orbicularis oculi is sutured to the superior lateral orbital rim periosteum.[2] This technique has gained recognition for reinforcing the subbrow region and achieving a more youthful appearance.[4] In addition to lifting and supporting the brow fat pad, a higher TPS and TPS/BFS ratio were reported with this technique.[2] TPS and BFS are reliable measures for the aesthetic quantification of the upper face.[5,6] We also observed improvements in the TPS and TPS/BFS ratio with the PUAWS technique.

PUAWS is a superotemporal variation of the brassiere suture that aims to provide enhanced temporal support while preserving a natural upper eyelid contour and volume. By supporting the brow height both at the midline and temporally, this simple and effective suspension technique offers an alternative to the brassiere suture, which provides support but does not reliably elevate the brow. The present study is limited by its retrospective nature and limited sample size. Therefore, larger case series are required to reliably evaluate the reproducibility and durability of this technique's outcomes.

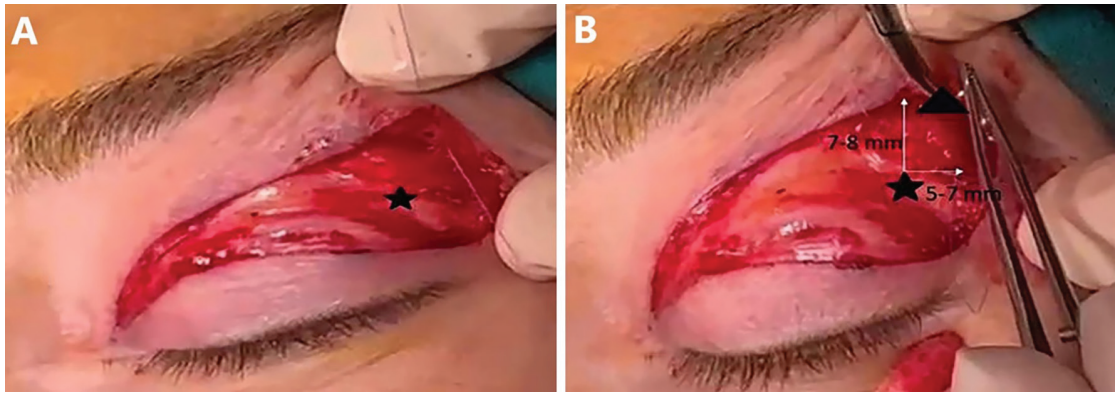


Figure 1. A) In the brassiere technique, the suture is passed through the periosteum at the superior lateral orbital rim (black star). B) In the PUAWS technique, the suture is passed up and away from the superior lateral orbital rim (black triangle)
PUAWS: Pelin's up and away suture

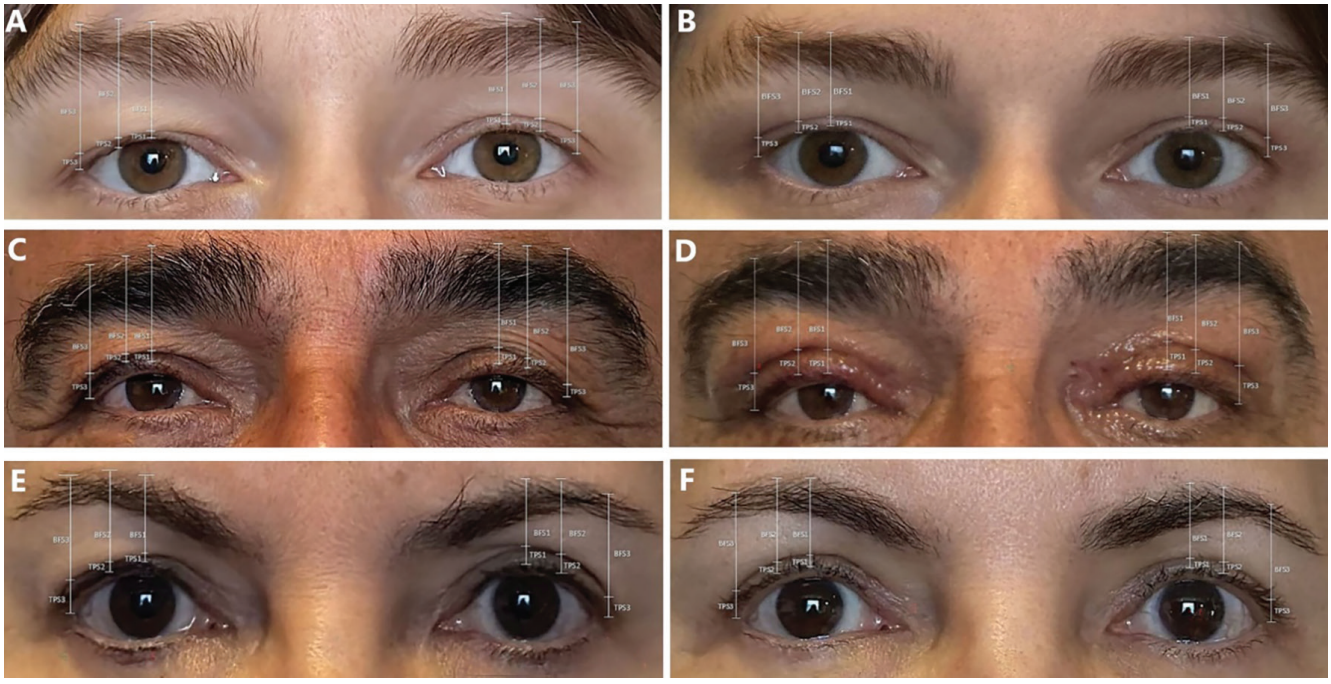


Figure 2. Preoperative and postoperative photographs of three patients. Patient 1 preoperatively (A) and postoperatively (B). Patient 2 preoperatively (C) and postoperatively (D). Patient 3 preoperatively (E) and postoperatively (F)

Table 1. TPS and BFS values before and after surgery

Location	Case no	Eye	Preoperative TPS (mm)	Preoperative BFS (mm)	Postoperative TPS (mm)	Postoperative BFS (mm)	Preoperative TPS/BFS	Postoperative TPS/BFS
Center of pupil	1	Right	0.98	15.06	1.87	18.09	0.07	0.10
		Left	1.33	14.17	1.96	17.29	0.09	0.11
	2	Right	1.34	13.85	2.28	17.68	0.10	0.13
		Left	2.65	13.83	3.13	17.41	0.19	0.18
	3	Right	2.18	23.77	4.67	27.76	0.09	0.17
		Left	3.46	25.05	6.02	28.75	0.14	0.21
Lateral limbus	1	Right	0.71	16.76	2.14	19.07	0.04	0.11
		Left	1.65	14.62	2.47	17.91	0.11	0.14
	2	Right	1.35	16.14	2.28	19.09	0.08	0.12
		Left	2.21	14.75	2.94	17.68	0.15	0.17
	3	Right	1.54	22.03	5.12	27.76	0.07	0.18
		Left	2.12	25.31	5.21	28.93	0.08	0.18
Lateral canthus	1	Right	2.05	18.81	3.92	23.08	0.11	0.17
		Left	3.03	17.02	4.01	21.84	0.18	0.18
	2	Right	5.15	22.00	5.24	25.42	0.23	0.21
		Left	3.40	19.80	4.97	23.80	0.17	0.21
	3	Right	4.88	27.75	7.27	31.53	0.18	0.23
		Left	2.31	30.64	8.17	33.78	0.08	0.24

TPS: Tarsal platform show, BFS: Brow fat span

Ethics

Informed Consent: Written informed consent was obtained from all patients before surgery.

Declarations

Authorship Contributions

Surgical and Medical Practices: P.K., Concept: P.K., Design: P.K., Data Collection or Processing: P.K., S.K.Ö., Analysis or Interpretation: S.K.Ö., G.D.Ş., Literature Search: S.K.Ö., G.D.Ş., Writing: P.K., S.K.Ö., G.D.Ş.

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References

1. Stanek JJ, Fuller JC, Hilger PA. Brassiere suture technique in upper eyelid blepharoplasty. JAMA Facial Plast Surg. 2019;21:458-459.
2. Figueiredo MN, Tao J, Akaishi P, Limongi RM. Tarsal platform show after upper eyelid blepharoplasty with or without brassiere sutures. Arq Bras Oftalmol. 2017;80:345-349.
3. Zarem HA, Resnick JI, Carr RM, Wootton DG. Browpexy: lateral orbicularis muscle fixation as an adjunct to upper blepharoplasty. Plast Reconstr Surg. 1997;100:1258-1261.
4. Eftekhari K, Peng GL, Landsberger H, Douglas R, Massry GG. The brow fat pad suspension suture: safety profile and clinical observations. Ophthalmic Plast Reconstr Surg. 2018;34:7-12.
5. Goldberg RA, Lew H. Cosmetic outcome of posterior approach ptosis surgery (an American Ophthalmological Society thesis). Trans Am Ophthalmol Soc. 2011;109:157-167.
6. Papageorgiou KI, Ang M, Chang SH, Kohn J, Martinez S, Goldberg RA. Aesthetic considerations in upper eyelid retraction surgery. Ophthalmic Plast Reconstr Surg. 2012;28:419-423.