

# Minimally Traumatic Midface Lift Approach for Patients in Their Early 30s and 40s

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**Background:** To evaluate the effectiveness of the minimally traumatic midface lift approach in combination with the Wrinkle Severity Rating Scale (WSRS) criteria.

**Methods:** From July 2007 to September 2009, 21 female patients underwent the minimal incision midface lift procedure. The procedure was mainly composed of a small arrow-like incision just superior to the top of the auricle, a fanlike subcutaneous dissection, and 3 suspension sutures. After 6 months, objective and subjective criteria were recorded, photos were taken for documentation and the WSRS scale system was used. Postoperative adverse effects were also recorded.

**Results:** All 21 patients completed more than a 6-month postoperative follow-up, and all the patients gained complete recovery. In the doctor's evaluation for using the WSRS system, 3 patients (14.3%) felt fair, the remaining 18 patients (85.7%) felt good, and no patients (0%) had poor results 6 months after the operation. In patient self-evaluation, 5 patients (23.8%) felt fair, the remaining 16 (76.2%) felt good, and no patient (0%) had poor results after 6 months. No serious operative complications including facial nerve palsy and skin slough were found.

**Conclusion:** The minimally traumatic midface lift is a simple, reliable, and effective approach for the aging face of women in their 30s and 40s. [*J Chin Med Assoc* 2010;73(9):487-491]

**Key Words:** midface lift, minimally traumatic, surgery

## Introduction

Age is the most significant factor contributing to the overall change in the appearance of an individual's facial features over time. This gradual process of structural weakening of the face begins during the third decade and continues to worsen during the remainder of an individual's lifetime. The purpose of the midface lift procedure is to reverse some of these changes such as deepening of the nasolabial grooves.

## Methods

From July 2007 to September 2009, 21 female patients were enrolled in the study, and their ages ranged from 30 to 48 years. Postoperative follow-up ranged from

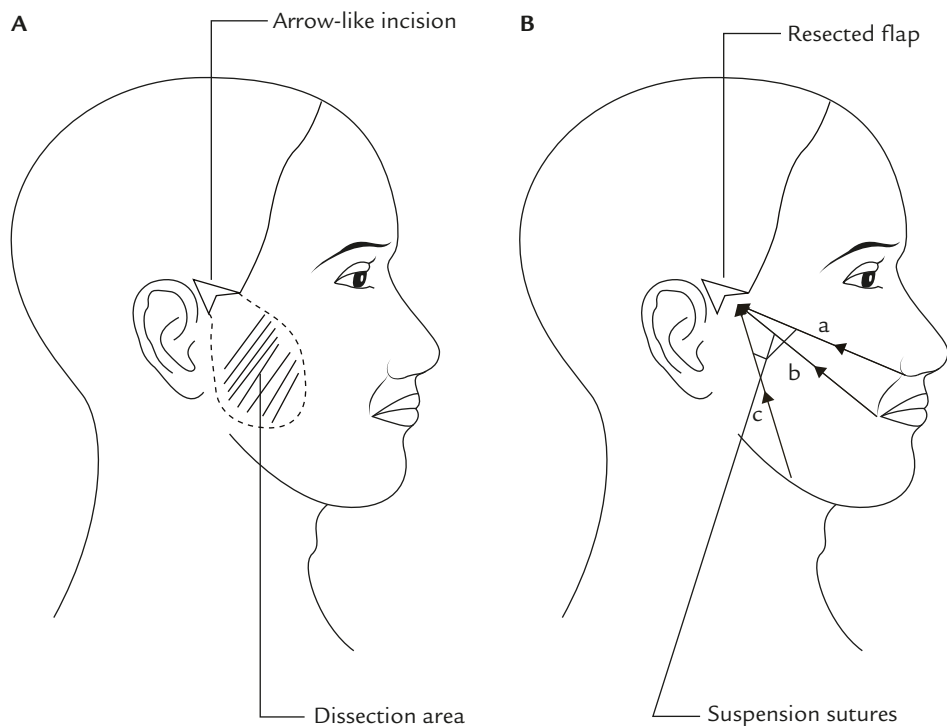
6 months to 24 months, with a mean follow-up of 9 months. The operations were performed by a team of surgeons including all of the investigators.

### *Surgical techniques*

A concentration of 1% lidocaine with epinephrine was used to infiltrate the incision area and the cheek. An infraorbital nerve block was also administered with the same anesthetic. An arrow-like incision was created above the superior apex of the ear. The angle of the incision was between 60–90 degrees with the point of the arrow 3 cm behind the hairline. A sharp dissection was then performed in the subcutaneous plane forward and downward using scissors. The dissection extended to the medial margin of the parotid gland (Figure 1A). Once the dissection was completed, the mobility of the midface was confirmed. If any resistance remained, the



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**Figure 1.** Drawing showing the design of the minimally traumatic approach.

dissection plane was re-explored to determine where the tethering occurred until the skin of the midface was completely mobile. Three designed sutures were planned along the line from the point of the alar base, labial commissure, and mandibular angle to the arrow point in a radiating manner. The sutures starting from the distant fascia of the parotid gland were anchored firmly with 4-0 Vicryl sutures to the temporalis aponeurosis at the level of the temporal incision (Figure 1B). The fascia was pushed backward and upward to suspend the cheek to achieve a reduction of the nasolabial groove. At this time, the skin flap was also pushed backward and upward, and then excess skin could be excised from the tip of the skin flap, the incision was closed in a standard fashion, and the operative area was properly dressed.

For the doctor's objective evaluation, the left and right nasolabial groove were graded before and 6 months after the operation through comparison of photographs. An improvement was judged by the outcome of the preoperative grade minus the postoperative grade in accordance with the Wrinkle Severity Rating Scale (WSRS) (Table 1).<sup>1</sup> If the final outcome of mean improvement of both sides was  $< 1$ , the result was fair; and if the mean improvement was  $\geq 1$ , the result was good. If serious complications such as facial nerve palsy and skin flap slough occurred, the result was regarded as poor. In the patient self and subjective

**Table 1.** Wrinkle Severity Rating Scale

Score	Description
5	Extreme: extremely deep and long folds, detrimental to the facial appearance; 2–4 mm visible V-shaped folds when stretched.
4	Severe: very long and deep folds; prominent facial features; less than 2 mm visible folds when stretched.
3	Moderate: moderately deep folds; clear facial features visible at normal appearance but not when stretched.
2	Mild: shallow but visible folds with a slight indentation; minor facial features.
1	Absent: no visible folds; continuous skin line.

Adapted from Narins et al.<sup>1</sup>

evaluation, we asked a non-related nurse to inquire about the patients' own opinion as compared with the preoperative photograph by ticking poor, fair, or good in improvement.

## Results

For the doctor's evaluation using the WSRS system, 3 patients (14.3%) felt fair, the rest of the 18 patients

**Table 2.** Raw Wrinkle Severity Rating Scale data of the 21 patients

Patient	Preoperative grade		Postoperative grade after 6 mo		Improvement after 6 mo		Mean improvement of both sides
	Left	Right	Left	Right	Left	Right	
1	3	3	2	2	1	1	1
2	4	3	2	2	2	1	1.5
3	2	3	1	1	1	2	1.5
4	3	3	1	1	2	2	2
5	3	4	1	2	2	2	2
6	2	3	1	2	1	1	1
7	3	3	1	1	2	2	2
8	2	3	1	1	1	2	1.5
9	2	3	2	2	0	1	0.5
10	3	3	1	1	2	2	2
11	4	3	1	1	3	2	2.5
12	3	2	1	1	2	1	1.5
13	2	3	2	2	0	1	0.5
14	4	4	2	2	2	2	2
15	3	3	1	1	2	2	2
16	2	3	1	1	1	2	1.5
17	2	3	1	2	1	1	1
18	3	3	1	1	2	2	2
19	3	4	2	2	1	2	1.5
20	2	2	2	1	0	1	0.5
21	3	3	1	2	2	1	1.5

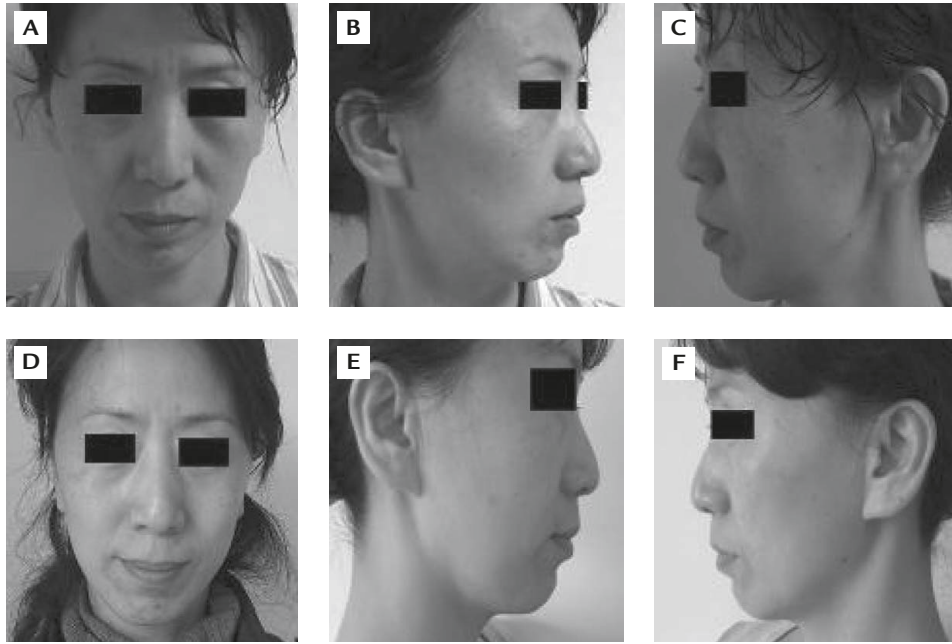
(85.7%) felt good, and no patients (0%) had poor results 6 months after the operation (Table 2). For the patient self-evaluation, 5 patients (23.8%) felt fair, the remaining 16 (76.2%) felt good, and no patients (0%) had poor results 6 months after the operation. Patient characteristics of temporary erythema, tenderness, and pain occurred and receded within 1 or 2 weeks. Two patients underwent distant necrosis of the skin flap and achieved somewhat delayed healing with small concealed scars. The minimally traumatic approach provided direct elevation of the midface soft tissues without serious postoperative complications. A representative patient is shown in Figure 2.

## Discussion

Age is the most significant factor contributing to the overall change in the appearance of an individual's facial features over time. An increased prominence of the nasolabial folds begins from the 30s. During the 4<sup>th</sup> decade and approaching the 5<sup>th</sup> decade, it deepens along with wrinkles and crow's feet in the forehead.<sup>2</sup> At the same time, in the lower face, the jaw line begins to occur along the mandibular line, and vertical lines begin to form in the perioral region.

The purpose of the midface lift procedure is to reverse the aging process that has occurred in individuals. The surgical treatment of rhytids was first performed in 1912 by Hollander.<sup>3</sup> In 1920, Bettman<sup>4</sup> was independently credited with the first subcutaneous rhytidectomy. More recently, there have been technique modifications. Adamson and Moran<sup>5</sup> suggested that the longevity of the lift could be prolonged by advocating suturing deep to the superficial fat. In 1976, the discovery of the superficial musculoaponeurotic system by Mitz and Peyronie<sup>6</sup> confirmed the existence of a fascial layer investing the facial mimetic musculature. This layer was noted to lie in a tissue plane that is continuous with the platysma below and the temporoparietal fascia above, and anatomically distinct from the underlying parotidomasseteric fascia. With the introduction of composite rhytidectomy, these techniques proved to be effective at achieving improvement in the nasolabial region.<sup>7</sup>

Currently, midface lifting is a valuable rejuvenative option for many patients and can provide a more youthful and balanced face. Procedures have advanced as successive generations of surgeons have improved the understanding of this complex anatomic area.<sup>8,9</sup> The midface lift can be performed as an isolated procedure or as part of multiple facial procedures.<sup>10</sup>



**Figure 2.** Photographs of a representative case, who was a 36-year-old woman: (A, B, C) preoperative; (D, E, F) 6 months postoperative. She had a conspicuous laxity of the nasolabial folds (rated as 4 on the left and 3 on the right before the operation). The minimally traumatic approach was applied and the outcome can be seen by comparing the preoperative and postoperative photographs. There were satisfactory results 6 months after the operation with apparent nasolabial fold reduction (rated as 2 on both the left and right postoperatively, with a mean improvement of 1.5) according to the doctor's evaluation, and the result was good. The patient's self-evaluation result was also good.

The minimally traumatic approach has several advantages over traditional methods. (1) Since the incision is mostly behind the hairline, the ensuing scar is inconspicuous compared with a preauricular scar from the traditional method. In young women, the postoperative scar is permanent in the conventional method and can interfere with social intercourse during the prime years of social activities. (2) The fanlike subcutaneous dissection is limited to the front border of the parotid gland where the facial nerve branches emerge, and this procedure poses little threat to the facial nerve. Therefore, this approach is safe in terms of preserving the important facial nerve. (3) Using 3 radiating sutures to lift the drooping midface upward and backward can help produce a longer-lasting effect.<sup>11</sup> (4) Since this method is minimally traumatic, the maneuver poses little damage to surrounding tissues. Therefore, postoperative swelling is minimal and a quick recovery after the operation is greatly appreciated by patients. However, the minimally traumatic method also has some disadvantages. For women more than 50 years old, skin laxity is obvious. Therefore, a lot more skin needs to be resected to the correct jaw line and a long incision is inevitable. In this case, the traditional approach is preferable to the minimally traumatic method. In conclusion, the minimally traumatic approach was chosen

since it provides direct elevation of the midface soft tissues without significant and prolonged edema, and it has a decreased healing time compared with the traditional approach. It also has the advantage of surgical simplicity, minimal tissue removal, and minimal risk.

Although the endoscopic technique can reap the greatest rewards, it is also fraught with the greatest peril.<sup>12</sup> A difficult dissection, prolonged period of edema, and numerous other pitfalls have tempered enthusiasm among facial esthetic surgeons for this powerful technique. In contrast, the minimally traumatic midface lift can be performed both safely and effectively. Through careful analysis of the pitfalls of midface surgery, principles can be adopted that help prevent or minimize potential complications.<sup>13</sup> Such a minimally traumatic approach can maximize the surgical benefit to the patient and lessen the anxiety surrounding the procedure for the patient and surgeon alike.

We recognize that there are several limitations to this study. This was a small retrospective, descriptive study and the postoperative follow-up was limited. No comparison was made to subperiosteal midface lifting, and there was no comparison of various midface fixation techniques such as absorbable sutures versus permanent sutures. In summary, the minimally traumatic midface lift is a safe and effective surgical procedure.

Most of our patients had successful results without the need for secondary surgery. As with any new surgical procedure, additional clinical studies, longer follow-up intervals, and sharing of data are needed to validate the efficacy of treatment.

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