

## Modified facelift incision for parotidectomy

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### Abstract

The most commonly used incision for parotidectomies is the modified Blair incision. We have successfully used an alternative incision which allows good exposure, and leaves no neck scar.

Between 1 March 1989 and 1 August 1991, 18 parotidectomies were performed using a modified facelift incision. Fifteen parotidectomies were done for similar indications during the same period using a modified Blair incision. The mean age in both groups of patients was 40.3 years. The pathology and incidence of complications was similar in the two groups. The difference in mean ( $\pm$  SD) time of surgery between the two groups was not statistically significant:  $3.14 \pm 0.75$  hours in patients with a modified facelift incision and  $3.25 \pm 1.27$  hours in patients with a modified Blair incision ( $p > 0.1$ ).

The modified facelift incision is an alternative approach to parotidectomy for selected patients. It provides adequate exposure, even for a total parotidectomy and mastoidectomy and it results in improved patient satisfaction without additional risk of complications.

**Key words:** Parotid gland, surgery; Rhytidoplasty

### Introduction

The most commonly used incision for parotidectomies is the modified Blair incision. The first descriptions of the use of a facelift incision for parotid surgery appeared in the plastic surgical literature (Appiani, 1967; Hinderer, 1977; Guerrerosantos *et al.*, 1982) and has only been mentioned in the otolaryngology literature (Hagan and Anderson, 1980; Cohen, 1988). There have not been any authors who directly compared the facelift incision to traditional incisions.

We have routinely employed a modified facelift incision over a three-year period. The purpose of the present report is to review our experience with this incision, including a systematic comparison with the modified Blair incision, and to offer specific indications for its use.

### Methods and materials

#### Technique

The modified facelift incision has been previously described (Hagan and Anderson, 1980) and involves a standard preauricular incision, which follows the line of the incisura, and is hidden at the tragus. It is important to mark the location of the lobule for precise reattachment. This portion of the procedure is exactly the same as that for a modified Blair. The remainder of the modified Blair incision extends onto the neck in a gentle curve which is located in a neck crease, approximately 3 cm below the angle of the mandible (Figure 1a).

Alternatively, the modified facelift incision (Figure 1b)

extends superiorly in the postauricular crease, and crosses to the occipital hairline (at a level above the point where the auricle meets the hairline) and then descends either adjacent to or just within this hairline for a distance of approximately 6 cm. The flap then raised is superficial to the parotidomasseteric fascia. Closure of the pre- and postauricular incisions is accomplished with fine monofilament suture, while the occipital extension is closed with staples.

Excellent exposure is obtained of all divisions of the facial nerve and this is illustrated in the photograph in Figure 2, in which a benign mixed tumour of the deep parotid lobe has displaced the upper division of the nerve.

#### Surgical review

All parotidectomies done at Stanford Hospital by two attending surgeons after 1 March 1989 and before 1 August 1991 were considered for review. All surgeries were performed by residents under faculty supervision.

Patients were excluded from analysis if they had a known parotid malignancy, were undergoing revision surgery, or had a parapharyngeal mass or arteriovenous malformation, in order to establish a fair comparison between groups. The patients were classified according to their surgical approach: Group A, modified facelift incision; Group B, modified Blair incision.

Parameters assessed included age, gender, surgery performed, time of surgery, histological diagnosis, integrity of the facial nerve before and after surgery, and the length of follow-up.



FIG. 1

The modified Blair incision is shown (a), and compared with the modified facelift incision (b).



FIG. 2

Excellent exposure of the facial nerve is shown in this intraoperative photograph of a benign mixed tumour of the deep right parotid lobe, as seen through a modified facelift incision.

TABLE I

	Modified facelift (Group A)	Modified Blair (Group B)
No. of patients	17	15
No. of parotidectomies	18	15
SP <sup>1</sup>	12	10
TP <sup>2</sup>	6	5
Age in years, mean ± SD (range)	40.3 ± 12.3 (21–61)	40.3 ± 24.6 (2–76)
Male	1 (6%)	5 (33%)
Female	16 (94%)	10 (67%)
Complications	3 (haematoma, wound infection, SF <sup>3</sup> )	4 (haematoma, wound infection, and 2 SF <sup>3</sup> )
Follow-up in months, mean (range)	8.1 (1–25)	7.7 (1–27)

<sup>1</sup>SP = Superficial parotidectomy; <sup>2</sup>TP = total parotidectomy; <sup>3</sup>SF = salivary fistula.

Comparisons between the two groups were performed using a Student's *t*-test.

**Results**

Sixty-five parotidectomies were performed between

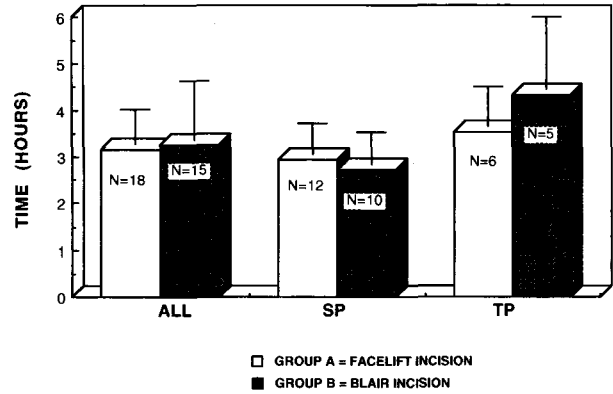


FIG. 3

Histogram comparing the length of surgery in the two surgical groups. Shown are the length of all surgeries combined (ALL), just superficial parotidectomy (SP), and just total parotidectomy (TP). Group A (white) represents the modified facelift incision; Group B (shaded) the modified Blair incision.

1 March 1989 and 1 August 1991 by two attending surgeons. Thirty-two of these procedures (all through a modified Blair incision) were excluded from consideration because they involved known malignancy (14), revision parotid surgery (5), arteriovenous malformations (6) or parapharyngeal masses (7).

The remaining 33 parotidectomies formed the basis of the analysis, and included 18 in which a facelift incision

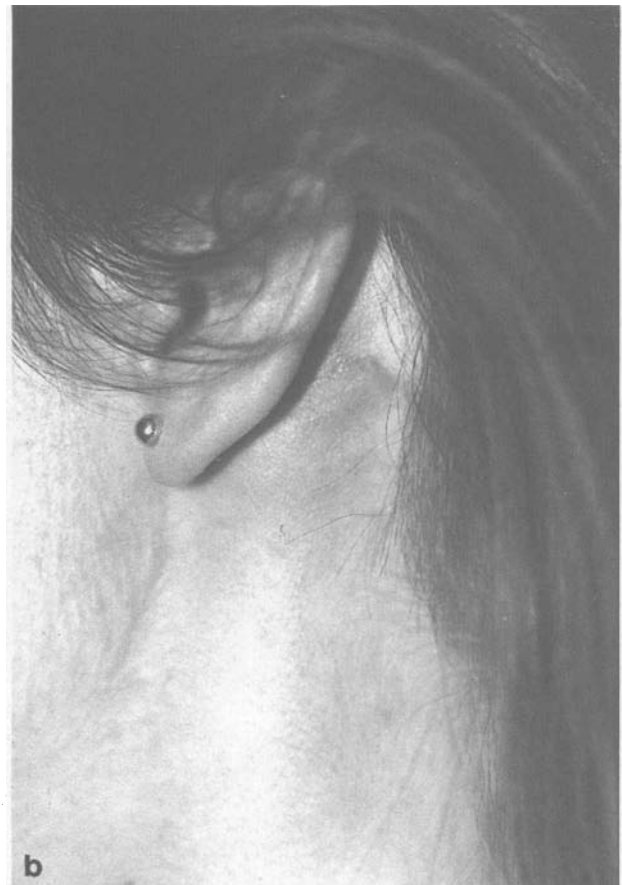


FIG. 4

Three-month post-operative photographs (a and b) of a 29-year-old woman who underwent a left superficial parotidectomy for a benign mixed tumour.

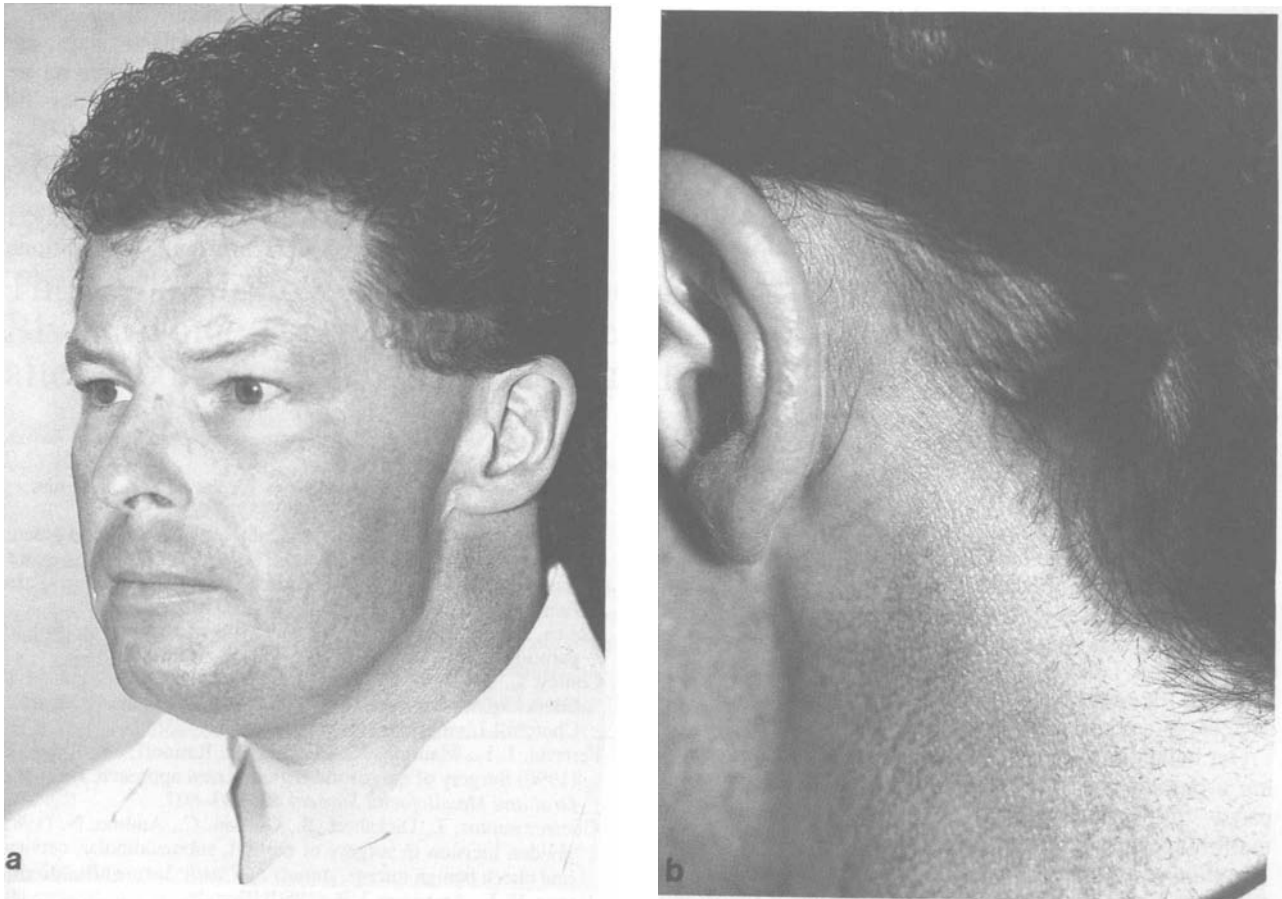


FIG. 5

Four-year post-operative photographs (a and b) of a 40-year-old man who underwent a left total parotidectomy for low-grade mucoepidermoid carcinoma.

was employed (Group A: 17 patients) and 15 (Group B: 15 patients) in which a modified Blair incision was used. The male : female ratio, incidence of complications, and length of follow-up are indicated in Table I. In addition to the complications reported, in Group A there was one case of facial nerve sacrifice in the mastoid and grafting because of adenoid cystic carcinoma. There were no other instances of permanent facial weakness in either group.

The pathology was similar in the two groups: pleomorphic adenoma was the most common histological diagnosis (seven out of 18 in Group A; 38.9 per cent; and four out of 15 in Group B; 26.7 per cent). There were four malignancies: one case each of adenoid cystic and low-grade mucoepidermoid carcinoma in Group A; and one case each of acinic cell and high-grade mucoepidermoid carcinoma in Group B.

The lengths of surgery were not significantly different between the two groups, and are depicted in Figure 3. The overall mean ( $\pm$  SD) in Group A was  $3.14 \pm 0.75$  hours, which represents  $2.94 \pm 0.64$  hours for superficial parotidectomy (SP), and  $3.53 \pm 0.86$  hours for total parotidectomy (TP). In Group B, the combined meantime for all parotidectomies was  $3.25 \pm 1.27$  hours. The mean for SP was  $2.71 \pm 0.68$  and for TP was  $4.32 \pm 1.55$  hours. The difference between the two groups was not statistically significant when comparing the average time of all surgeries ( $p > 0.1$ ), just SP ( $p > 0.1$ ) or just TP ( $p > 0.1$ ).

Representative post-operative photographs are shown in Figure 4 (a and b) and Figure 5 (a and b).

## Discussion

In contrast to the days of allowing benign mixed tumours to 'ripen' prior to removing them (McFarland, 1936), prompt attention to parotid masses is mandatory. Removal with a wide cuff of normal parotid tissue, preferably at least a superficial parotidectomy (Woods *et al.*, 1975), is now the accepted practice.

Conley emphasized the varied nature of parotid tumours in that they 'present a bewildering array of problems in diagnosis and management' (Conley and Baker, 1981), and nearly as varied as the histologies has been the approaches and incisions used during the past 90 years. The first description of a specific incision for parotidectomy is credited to Gutierrez, in 1903 (Appiani, 1984). Today, the most commonly used incision for parotidectomies is the Blair incision, introduced in 1912 (Blair, 1918), and modified by Bailey (Bailey, 1941).

In search of a more cosmetic approach to parotid surgery, Appiani mentioned the possibility of a rhytidectomy incision for exposing the parotid in 1967 (Appiani, 1967). Other references to this approach followed in the plastic surgical literature (Hinderer, 1977; Guerrero Santos *et al.*, 1982) and in the maxillofacial literature (Ferreria *et al.*,

1990). However, it has been mentioned only sparingly in the otolaryngology literature (Hagan and Anderson, 1980), with only nine patients actually reported (Cohen, 1988). No authors have offered a systematic comparison between the modified facelift incision and traditional incisions in terms of patient demographics, ease of performance, and complications.

Our results indicate that a modified facelift incision (we use the qualifier 'modified' because of minor differences between our incision and a standard rhytidectomy incision) can be performed with a similar incidence of complications (Table 1) and length of surgery (Figure 3) when compared with the modified Blair incision. The one patient who required facial nerve sacrifice because of adenoid cystic carcinoma further demonstrates the versatility of the modified facelift incision: this patient subsequently underwent a mastoidectomy to obtain negative margins of the facial nerve, and a 14 cm sural nerve cable graft, through the same incision. The patient is currently four years after surgery, has facial symmetry at rest and volitional movement of all facial muscles except those supplied by the frontal branch of the facial nerve. We are unable to explain the slightly shorter operative time with the modified facelift incision for total parotidectomy, although the number of patients is small, and the difference is not a statistically significant one.

Our indications for the traditional incision in approaching a parotid mass include: known malignancy, anticipated difficult dissection (as for arteriovenous malformations), parapharyngeal space masses, and recurrent tumours. Conversely, we consider the modified facelift incision for a motivated patient who has a suspected benign tumour, especially if it is posteriorly located.

The advantage of the modified facelift incision is that it leaves no visible neck scar, while its disadvantages include: poor adaptability for a neck dissection, theoretically increased risk for flap ischaemia, and potentially limited anterior exposure, although to date we have not experienced any of these possible drawbacks. It is helpful to have a second assistant when employing this approach.

Finally, we must emphasize that a patient will accept a visible scar if the facial nerve is intact. However, a patient will not be satisfied with a facial paralysis, even if it is accompanied by a cosmetic incision. Therefore, if one feels limited by the surgical exposure obtained, especially in regard to facial nerve branches, there should be no hesitation in extending the incision anteriorly to gain added exposure.

## Conclusions

Progress continues to be made in arriving at less

deforming, more cosmetic surgical results. Hidden incisions (e.g. bicoronal incision for osteoplastic flaps, and midface degloving incision for maxillary fracture repair) are not only feasible, but often preferred, and are possible in parotid surgery.

The modified facelift incision provides a safe, alternative approach to parotid masses, and adequate exposure for even a total parotidectomy and mastoidectomy. It offers improved patient satisfaction without additional risk of complications.

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