

## Superficial Parotidectomy Via Facelift Incision

Peter J. F. M. Lohuis, MD, PhD; M. Liane Tan, MD; Katrien Bonte, MD;  
Michiel W. M. van den Brekel, MD, PhD; Alfons J. M. Balm, MD, PhD;  
Hubert B. Vermeersch, MD, PhD

The stigma of a visually prominent facial scar following parotid surgery can be distressing to a young patient. The surgical technique of parotidectomy via a facelift incision is described and evaluated. Thirty patients with a benign lesion of the parotid gland underwent a partial superficial parotidectomy via a modified facelift incision. After operation, all patients had excellent cosmesis and complete function of the facial nerve. The facelift incision provides adequate exposure of the parotid gland for (partial) superficial parotidectomy. It can be offered as an alternative to a select group of patients who present with a small, mobile tumor in the tail of the parotid gland and an explicit request for an invisible postoperative scar.

**Key Words:** facelift, incision, parotidectomy.

### INTRODUCTION

The traditional approach to the parotid gland is the “lazy-S” incision described by Blair.<sup>1</sup> It runs in a slight S-curve from the preauricular incision halfway down the neck (Fig 1A). Although this approach provides excellent surgical exposure of the

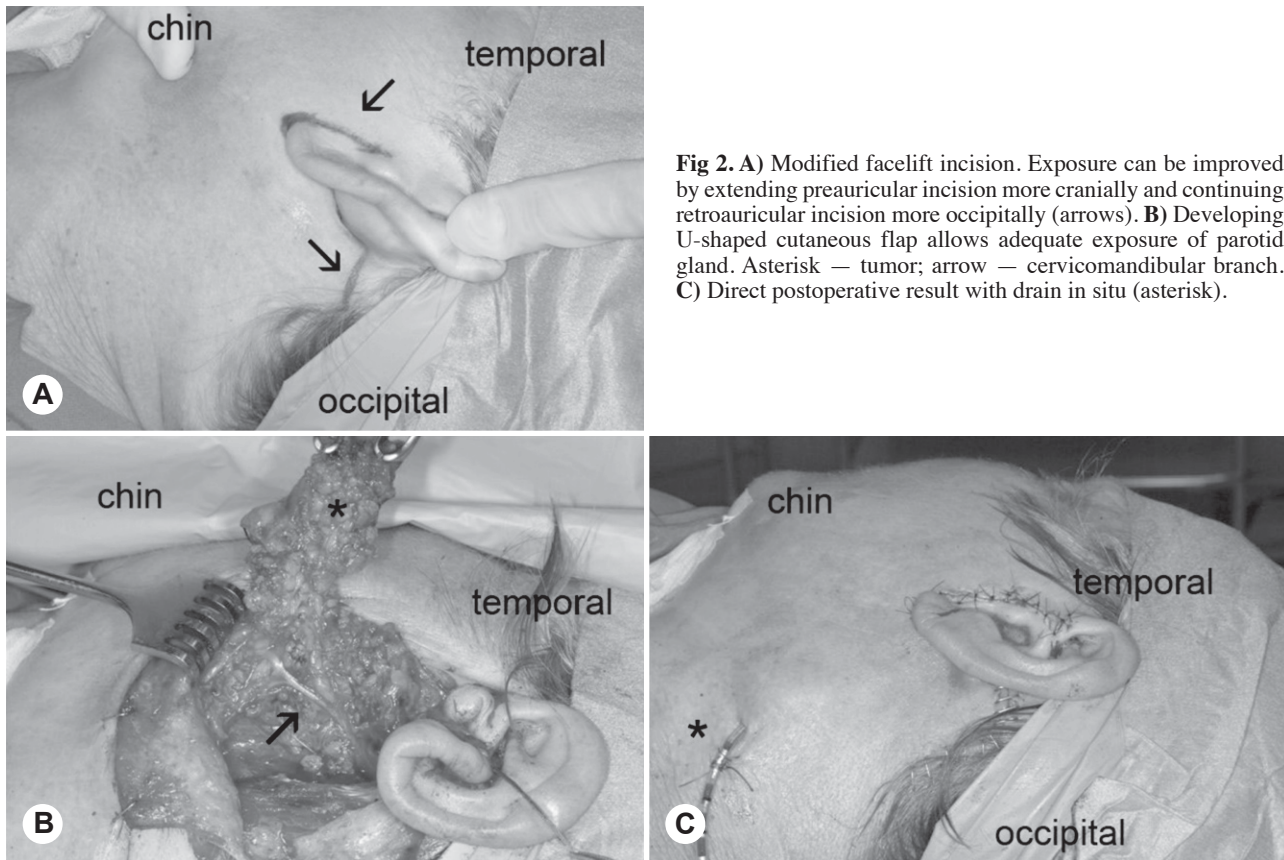
entire parotid gland, it inevitably leaves a visible scar. In a quest to obtain superior cosmetic results in parotidectomy, the use of a facelift incision was first described by Appiani<sup>2</sup> in 1967. Since then, the technique has received a positive evaluation in a few reports based on small numbers of patients.<sup>3-8</sup> A retrospective, comparative study by Terris et al<sup>9</sup> showed



**Fig 1.** A) Parotidectomy incision according to Blair. B) Modified facelift incision. Retroauricular part of incision can also be performed more horizontally in hair-bearing skin of scalp.

From the Department of Head and Neck Oncology and Surgery, The Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital (Lohuis, Tan, van den Brekel, Balm), and the Department of Otorhinolaryngology, Academic Medical Center (Lohuis, van den Brekel, Balm), Amsterdam, and the Department of Otorhinolaryngology–Head and Neck Surgery and Facial Plastic Reconstructive Surgery, Diaconessen Hospital, Utrecht (Lohuis), the Netherlands, and the Department of Head and Neck Surgery, University Hospital Gent, Gent, Belgium (Lohuis, Bonte, Vermeersch).

**Correspondence:** Peter J. F. M. Lohuis, MD, PhD, Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital, Plesmanlaan 121, 1066 CX Amsterdam, the Netherlands.



**Fig 2.** **A)** Modified facelift incision. Exposure can be improved by extending preauricular incision more cranially and continuing retroauricular incision more occipitally (arrows). **B)** Developing U-shaped cutaneous flap allows adequate exposure of parotid gland. Asterisk — tumor; arrow — cervicomandibular branch. **C)** Direct postoperative result with drain in situ (asterisk).

no significant difference with respect to complications or surgery time between 15 patients who had had a Blair incision and 17 patients who had had a facelift incision. Further, without exception, all investigations concluded that the facelift incision provides ample exposure of the parotid gland and that the cosmetic results are excellent and superior to those of the Blair incision.<sup>3-8</sup>

In recent years, an increasing number of (mostly younger) patients with a benign lesion of the parotid gland have contacted our outpatient clinic expressing concern about a satisfying cosmetic postoperative result. For some of these patients, cosmesis even played a role in their decision to undergo surgery. Therefore, in a select group of patients we opted for an alternative facelift incision. In this article, we discuss and evaluate that alternative.

#### METHOD

*Development of Cutaneous Flap.* Compared to the Blair incision (Fig 1A), the modified facelift incision (Figs 1B and 2A) can be made slightly more cranially at the preauricular site to allow more mobility of the cutaneous flap at a later stage. The incision is usually made in the natural preauricular fold, although it can also be made behind the tragus. In the latter case, the scar is virtually invisible. The in-

cision is then extended distally around the origin of the earlobe to the retroauricular fold. If necessary, the origin site of the lobe can be marked with ink on the skin to make it easier to close the incision later. At about the level of the tragus, the retroauricular incision is extended posteriorly and then curved in an occipital direction. One option is to run the incision horizontally into the hairy scalp (parallel to the hair roots). Another possibility is to angle the incision, cutting into or just below the hairline. The next step is to develop the cutaneous flap by cutting anteriorly across the superficial cervical fascia and in a postero-caudal direction just subcutaneously. In the antero-caudal direction, the flap is prepared over the parotid fascia, medial to the platysma and lateral to the great auricular nerve. This is necessary to preserve the nerve and the distal platysma branches of the facial nerve. Eventually, this creates a U-shaped cutaneous flap, which should adequately expose the parotid gland (Fig 2B). Depending upon the size of the tumor, the mobility of the flap and thereby the exposure under the flap can be increased by extending the occipital part of the incision or, as mentioned above, by extending the preauricular incision more cranially.

*Location of Main Branch of Facial Nerve and Resection of Tumor.* After development of the U-

PATIENT CHARACTERISTICS				
Patient	Sex	Age (y)	Diagnosis	Complications
1	F	25	Pleiomorphic adenoma	
2	F	2	Branchial cyst	
3	F	30	Pleiomorphic adenoma	
4	F	28	Pleiomorphic adenoma	
5	F	48	Pleiomorphic adenoma	
6	M	4	Atypical tuberculoid granuloma	
7	M	51	Pleiomorphic adenoma	Postoperative bleeding
8	M	52	Warthin tumor	
9	F	51	Pleiomorphic adenoma	
10	F	30	Pleiomorphic adenoma	
11	F	26	Pleiomorphic adenoma	
12	F	10	Chronic sialoadenitis (Sjögren syndrome)	
13	F	27	Pleiomorphic adenoma	
14	F	31	Pleiomorphic adenoma	
15	M	43	Monomorphic adenoma	
16	F	24	Pleiomorphic adenoma	
17	M	28	Leiomyoma	
18	M	9	Castleman disease	Postoperative bleeding
19	M	54	Pleiomorphic adenoma	
20	F	11	Pleiomorphic adenoma	
21	M	35	Pleiomorphic adenoma	
22	F	34	Pleiomorphic adenoma	
23	F	4	Atypical tuberculoid granuloma	
24	F	12	Chronic recurrent parotitis (Sjögren syndrome)	
25	F	11	Chronic sialoadenitis (Sjögren syndrome)	
26	F	28	Pleiomorphic adenoma	
27	F	3	Tuberculoid granuloma	
28	F	22	Pleiomorphic adenoma	
29	F	52	Warthin tumor	Delayed wound healing
30	M	79	Warthin tumor	

shaped cutaneous flap, the main branch of the facial nerve should be identified. First, the ventral part of the sternocleidomastoid muscle and the dorsal part of the digastric muscle are exposed. Then, the cartilage pointer of the external auditory meatus is located. Subsequently, after locating and exposing the main branch of the facial nerve where it emerges from the stylomastoid foramen, it is advisable to locate the cervicomandibular branches. Afterward, the parotid section containing the tumor can be removed upward, guided by the facial nerve branches (Fig 2B).

*Closure of Incision.* After removal of the tumor specimen and ensuring of adequate hemostasis, the wound can be rinsed with a cytotoxic dilution (distilled water), if indicated. The wound drain for vacu-

um drainage is inserted via the surgical opening and is guided in a posterior direction. Finally, the incision is closed with 4-0 Vicryl sutures subcutaneously and with 5-0 monofilament sutures cutaneously. Staples can be used postauricularly in the hair-bearing skin (Fig 2C).

## RESULTS

Over a 4-year period, 30 patients underwent partial superficial parotidectomy via a modified facelift incision at the University Hospital, Gent, and at the Netherlands Cancer Institute/Antoni van Leeuwenhoek Hospital, Amsterdam. The group of patients consisted of 21 women and 9 men (mean age, 28.8 years; range, 2 to 79 years). Patient characteristics are presented in the Table. All tumors were less than 4 cm in diameter and were resected with microscopically and macroscopically tumor-free margins and no occurrence of tumor spill. The average surgery time was less than 2.5 hours in all patients. No postoperative complications were reported for 27 of the 30 patients. In 1 patient with diabetes mellitus and perioperative nicotine abuse, the wound healed slowly at the distal end of the flap in the retroauricular region; 2 other patients had capillary postoperative bleeding. All patients were discharged from the hospital within 4 days after surgery. Both the functional and the cosmetic results were evaluated in a binary fashion ("excellent" versus "not excellent") approximately 12 weeks after surgery. By then, the function of the facial nerve was completely normal. In all cases, the cosmetic result was considered excellent, both subjectively (patient's and/or parent's judgment) and objectively (surgeon's judgment), without regard to hairstyle (Fig 3).

## DISCUSSION

Several retrospective studies have shown that the facelift incision provides ample exposure of the parotid gland without a demonstrable risk increase and with cosmetic results that are superior to those of the traditional Blair incision.<sup>3-10</sup> On the basis of our own experience, we can endorse these conclusions. However, some caveats should be given, particularly regarding contraindications for this technique.

Regarding the extent of surgical exposure, the modified facelift incision has some limitations due to its U shape. Assistance is required to retract the cutaneous flap to improve exposure and dissection of the cervicomandibular branch of the facial nerve in an antero-caudal direction (Fig 2B). Exposure under the flap can be improved by extending the preauricular incision more cranially and continuing the retroauricular incision more occipitally, thereby increasing the mobility of the flap (Fig 2A). However, even the most experienced surgeons should expect a

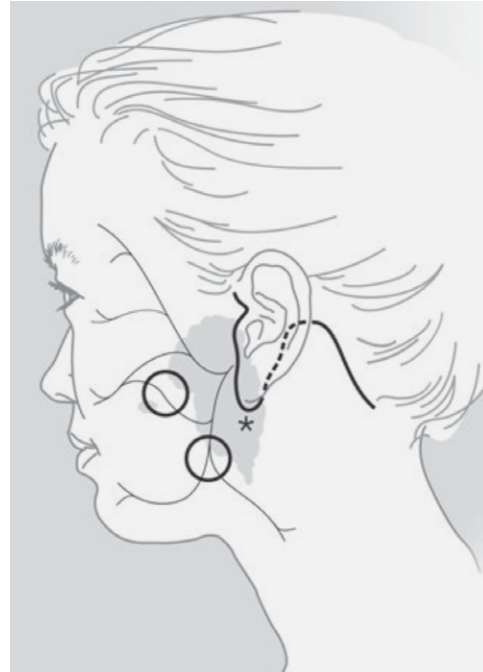


**Fig 3.** Result 12 months after operation.

(limited) learning curve here.

In view of the above caveats, the approach via a modified facelift incision should be reserved for a select group of patients. It should ideally be made available to persons who present with a small to medium-sized benign (as cytologically demonstrated) mobile tumor of the superficial lobe of the parotid gland and who also explicitly want to avoid a visible scar in the neck.

The size and location of the tumor may be considered relative contraindications (Fig 4). In the case of a large and rather immobile tumor, the main branch of the facial nerve may be difficult to identify, and it may therefore be necessary to expose the nerve in a retrograde procedure. When a tumor is located anterocaudally, restricted exposure may actually increase the risk of damage to the facial nerve and/or incomplete resection. In our study, the patients were carefully selected, and all tumors were removed completely. So far, no tumor recurrence has been reported, although the time span after surgery is relatively short to make a final evaluation. In our opinion, malignant tumors of the parotid gland are a contraindication for this procedure because of the restricted exposure achieved with this approach. It is, of course, possible to adapt the incision (perpendicular to the facelift incision, at the level just behind the earlobe) for a concurrent neck dissection, although this is obviously more complicated than using a direct extension of the traditional Blair incision. Moreover, it would be advisable to leave this procedure to surgeons who already have extensive experience in performing a parotidectomy via the traditional incision; technically, the traditional approach is easier, simply because it exposes the parotid gland better. Further, as in rhytidectomy, smoking and diabetes mellitus are relative contraindications for this procedure.<sup>11</sup> The reason is that healing of the



**Fig 4.** Technique of parotidectomy via modified facelift incision is ideally used in case of small, mobile tumors in tail of parotid gland (asterisk). When tumor is located anteriorly and anterocaudally (circles), restricted exposure may increase risk of damage to facial nerve and/or incomplete resection.

wound could be delayed or disrupted by decreased perfusion of the distal end of the cutaneous flap, as was seen in 1 of our patients.

In conclusion, it is advisable for a head and neck surgeon to master the approach to the parotid gland via the facelift incision, so that he or she can offer an alternative to patients who are concerned about the cosmetic results of surgery. However, first and foremost, there must be no doubt about the indication for this procedure with respect to the size, location, and histopathologic characteristics of the tumor. Despite the high sensitivity of the preoperative fine-needle aspiration technique,<sup>12</sup> unexpected findings during surgery cannot be ruled out. For instance, the surgeon may find the tumor fixed to (the branches of) the facial nerve, or perioperative frozen section examination may reveal lymph node metastasis in the subdigastric region. In the event of fixation to the main facial nerve branch, the surgeon might have to take a retrograde approach to the facial branches; in the event of metastasis, a neck dissection may be indicated. However, in both cases the modified facelift incision can still be extended toward the neck without compromising the vascularization of the skin.

In summary, the facelift technique described is truly accessible to those with little experience with facelift incisions, as long as they have enough experience with parotidectomy.

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