

“The Stork Lift”: A Circumoccipital Extended Neck-Lift

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Abstract

Background The goal of the lower face- and neck-lift is restoration of a sharp cervicomental angle. However, standard cervical rhytidectomy for the patient with extensive excess skin of the neck often leaves the patient with objectionable vertical or diagonal skin folds of the lateral neck, a large hair-step deformity, or both. To remove extensive excess skin of the neck and to avoid vertical/diagonal folds and a stepped hairline, the authors “walk” the excess skin posteriorly along the hairline, often from ear to ear along the inferior posterior hairline.

Methods Patients with extensive excess skin of the neck underwent neck-lift procedures using the circumocciput incision technique during a 1-year period. With the patient in a sitting position, a postauricular face-lift incision is extended along the inferior hairline from ear to ear. The flap is “walked” posteriorly to and along the occiput on either side of the midline. It is closed using a divide and close technique. Flaps are created, and the wound is closed in a multilayered fashion with a posterior midline A-to-T flap.

Results During a 1-year period, 25 patients (22 women and 3 men) underwent a cheek/neck-lift, and 2 patients (1 man and 1 woman) underwent isolated neck-lift procedures using the circumocciput incision technique. The average patient age was 64.8 years (range, 49–79 years). There were no instances of obvious lateral neck folds. Complications included hematoma (1 patient), *Candida* wound infection (1 patient), and a widened scar revised secondarily (1 patient). All the patients were satisfied with their cosmetic result 6 months after the operation. None of the patients stated that their final scar was noticeable or objectionable.

Conclusions The patients in this study who presented with excessive redundant skin of the neck were treated with the “stork lift,” which provided excellent lifting of the anterior, lateral, and posterior neck as well as excellent cervicomental angles without postoperative sequelae of lateral neck folds or stepped hairlines.

Keywords Cervical lift · Face-lift · Neck-lift

Introduction

The goal of the lower face- and neck-lift procedure is restoration of a sharp cervicomental angle. The approach to the patient with redundant skin of the neck includes platysmaplasty, submentoplasty, and cervical rhytidectomy. However, standard cervical rhytidectomy for the patient with excessive redundant skin of the neck may leave the patient with vertical or diagonal skin folds of the lateral neck (Fig. 1), a large hair-step deformity, or both.

To remove extensive excess skin of the neck and to avoid vertical/diagonal folds and a stepped-hairline, the authors “walk” the excess skin posteriorly along the hairline, often from ear to ear along the inferior posterior hairline. Furthermore, for full removal of the dog ears created with such a thorough removal of neck skin, a midline incision is made in the mid-posterior neck from the inferior hairline down the nape of the neck. This procedure yields excellent results in the anterior and lateral neck, with the additional benefit of a posterior neck-lift. We name this procedure the “stork lift.”

Indications

The stork lift is indicated for patients with excessive redundant skin of the anterior and lateral neck.

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Fig. 1 A 70-year-old woman who underwent lower face- and neck-lift elsewhere with a limited posterior incision. Note the presence of diagonal lateral neck folds and a poor cervicomenal angle



Fig. 3 Posterior cervical incision made along the hairline. Note the redundant skin present laterally on each side that must be “walked” posteriorly

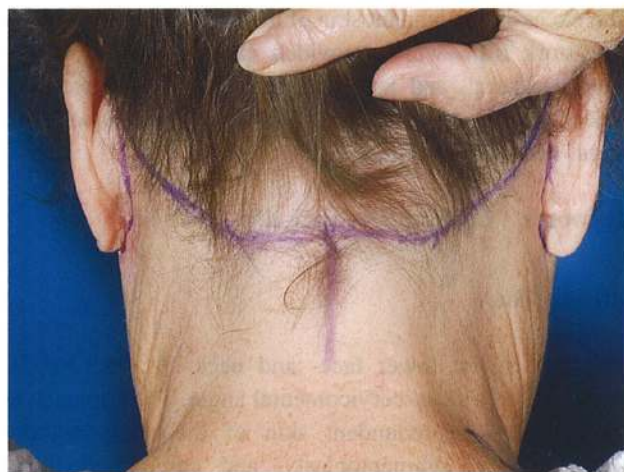


Fig. 2 Preoperative marking of the proposed posterior cervical incision line. The incision will follow the posterior hairline. The vertical line marks the midline and will form the center of the A-to-T flap

Technique

Preoperatively, the posterior hairline (above the wispy hairs) and the proposed midline incision from the base of the posterior inferior hairline down the midline of the posterior neck are marked with the patient in sitting position (Fig. 2). Intravenous sedation generally is used. However, laryngeal mask airways have been used for several patients. Serial compression dilators are placed on the legs.

The lower face and the anterior and posterior neck are infiltrated with a tumescent solution consisting of lidocaine 0.1% and epinephrine 1:500,000. If appropriate, a submental incision is made. Liposuction of the anterior and lateral neck

is performed as needed. An anterior corset platysmaplasty and submentalplasty usually is performed [1].

The preauricular face-lift incision is extended around the lobe of the ear to follow very superiorly along the postauricular sulcus, then along the postauricular hairline. Subcutaneous dissection then is performed in the lower face and neck. Liposuction and superficial muscular aponeurotic system (SMAS) tightening procedures are performed as appropriate.

Next, the skin of the face and lateral neck is redraped, and excess preauricular skin is excised. The pre- and postauricular incisions then are closed with sutures, after which the posterior flap is “walked” along the hairline incision in a series of tacking and cutting maneuvers such that the skin lies flat without puckers or lateral diagonal folds.

The patient next is moved to a sitting position on the operating table. Blood pressure must be monitored closely with the patient in this position. If hypotension develops, the patient must be laid flat until the pressure stabilizes before further posterior surgery is performed. Two assistants are used to stabilize the head with the patient in a sitting position. The head must be kept in an upright, unflexed, and unextended position for proper assessment and correction of posterior puckering.

The incision is extended along the inferior hairline from ear to ear (Fig. 3). The flap is “walked” posteriorly to and along the occiput on either side of the midline (Fig. 4). It is closed in a divide and close technique. Excess skin is excised along the hairline. If there is puckering at the posterior nape of the neck, the dog ear is excised by making a midline posterior neck incision from the base of the hairline to the base of the neck. Flaps are created, and the wound is closed in a multilayered fashion with an A-to-T flap (Figs. 5 and 6). The superficial skin is closed with staples (Fig. 7).



Fig. 4 Vertical midline incision with wide undermining of the skin



Fig. 7 Skin closure with multiple skin staples



Fig. 5 Excess skin “walked” posteriorly. The posterior excess skin is excised as an A-to-T flap. Note the superomedial tension on the posterior neck has the benefit of providing a posterior neck-lift



Fig. 6 Excision of excess skin followed by T-flap closure with 3–0 or 4–0 Vicryl deep buried sutures

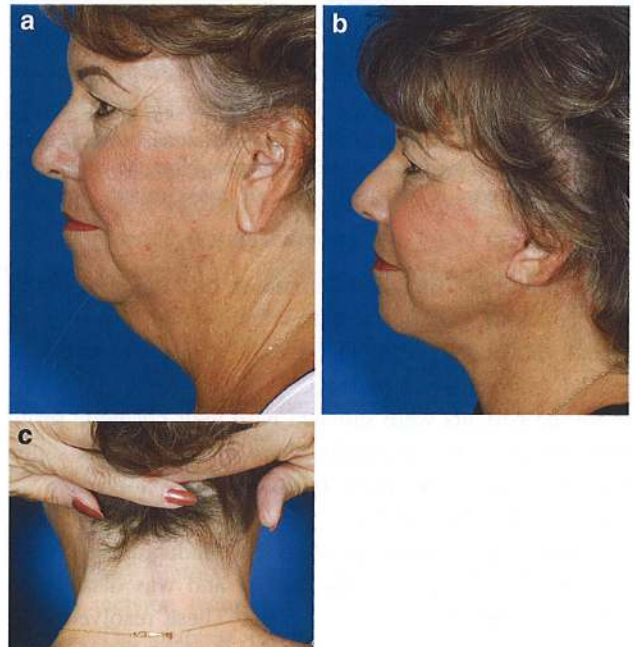


Fig. 8 (a) A 60-year-old woman with excessive redundant skin in the anterior neck. (b) Postoperative view of same patient 6 months after a cheek/neck procedure using the stork lift technique. Note the absence of lateral neck folds. (c) Posterior scar of same patient 6 months postoperatively

Results

During a 1-year period, 25 patients (22 women and 3 men) underwent cheek/neck-lift, and 2 patients (1 man and 1 woman) underwent isolated neck-lift procedures using the circumocciput incision technique. The average patient age was 64.8 years (range, 49–79 years). There were no instances of obvious lateral neck folds and no instances of posterior flap necrosis or slough.



Fig. 9 (a) A 69-year-old woman with excessive skin in the anterior neck. (b) Postoperative view of same patient 6 months after a cheek/neck procedure using the stork lift technique. Note the absence of lateral neck folds. (c) Posterior scar of same patient 6 months postoperatively



Fig. 10 (a) A 65-year-old woman with excessive redundant skin in the anterior neck and significant sun damage. (b) Postoperative view of same patient 6 months after a cheek/neck procedure using the stork lift technique. Note the absence of lateral neck folds. (c) Posterior scar of same patient 6 months postoperatively

Complications included hematoma that required drainage (1 patient), *Candida* wound infection that responded to topical antifungal cream (1 patient), and a widened scar revised secondarily (1 patient).

All the patients were satisfied with their cosmetic result 6 months after the operation. None of the patients stated that their final scar after 6 months was noticeable or objectionable (Figs. 8–11).

Notably, one man in the study had undergone a cheek/neck-lift elsewhere 3 months earlier and was dissatisfied with the resultant lateral neck folds. These resolved after the patient underwent a cheek/neck-lift using the stork lift procedure (Fig. 12).

Discussion

The large neck presents a challenge to the facial surgeon. Mobilizing a large amount of anterior and lateral neck skin toward the posterior neck and repositioning it posteriorly and superiorly creates an issue of skin bunching that can be unsightly and difficult to address. Dealing with these large necks using traditional techniques often leaves the patients with vertical or oblique “pleats” in the lateral neck. If a horizontal incision is made in the postauricular hair-bearing area to rotate the excess skin superolaterally, an unsightly hairline step deformity results. This is due to the



Fig. 11 (a) A 59-year-old man with excess anterior neck skin. (b) Postoperative view of same patient 6 months after an isolated neck-lift using the stork lift technique. Note the absence of lateral neck folds. (c) Posterior scar of same patient 6 months postoperatively

fact that unless the incision is extended much farther posteriorly, the vectors used to redrape the excess skin will be limited to the superolateral vector alone. With large



Fig. 12 (a) A 78-year-old man with a history of prior standard cheek/neck-lift performed elsewhere. Note the vertical folds in the lateral neck. (b) Postoperative view of same patient 6 months after a cheek/neck procedure using the stork lift technique. Note the absence of lateral neck folds. (c) Posterior scar of same patient 6 months postoperatively

amounts of redraped anterior neck skin into the postauricular area, the result is formation of lateral neck folds.

The stork lift avoids these potential problems by re-draping the skin of the lateral neck in a posterior vector as well. The excess skin is “walked” all the way around the occiput. Often there is sufficient redundant skin walked back around the occiput to require a vertical T incision that allows for excision of the pucker created into the posterior midline. The incision lines fade nicely and rarely are noticeable or objectionable.

The stork lift is indicated for patients with excessive redundant skin of the anterior and lateral neck. In our practice, this comprises approximately 30% of patients, who require cheek/neck-lifts.

The need for a circumoccipital incision often can be predicted preoperatively. At examination of the patient, the skin of the lateral neck is lifted manually in a manner that simulates the surgical result. If excessive bunching is seen at the lateral neck or in the postauricular area, then a stork lift likely is necessary. Patients often are consented to a “possible” circumoccipital incision because the final determination often is made during surgery at the time of skin redraping. Both men and women with short hair are instructed to let their hair grow longer to hide the scar during the healing phase.

Many algorithms for addressing the neck have been described [2–6]. However, the question of how to redrape

the skin adequately for patients with excessive anterior neck skin often is underemphasized. The mobilized skin must be wrapped around the convex structure of the neck. If the incision extends posteriorly only to the level of the lateral neck, there will be insufficient room for adequate redraping and unfolding of the anterior and lateral neck skin. This will result in puckering, often seen as lateral vertical or diagonal neck folds.

Only by extending the incision all the way around the posterior neck and completely undermining the skin of the lateral and posterior neck is there sufficient area for redraping the skin without the formation of puckers or folds. The thorough tailoring of skin around the convexity of the neck often necessitates the creation of a dart in the form of an A-to-T incision at the nape of the neck for excision of dog ears. Furthermore, the more posterior vector forces of this redraping technique provide a greater degree of tension on the anterior neck, resulting in a superior cervicomental angle.

The use of posterior cervical incisions for correction of excessive anterior neck skin was first described more than 40 years ago [7, 8]. Other techniques have involved a posterior occiput incision within the hairline. However, with these techniques, the incision often resulted in an elevation of the posterior hairline or a hairline “step” [9, 10].

More recently, a staged approach to lower facial surgery has been reported [11]. However, in that technique, a posterior cervical rhytidectomy was performed as a secondary procedure only for patients who experienced vertical lateral neck folds subsequent to a face-lift. Furthermore, the incision was placed within the hairline, resulting in an A-shaped posterior hairline. We believe that for the patient with a large neck, the need for an extensive posterior cervical incision can be predicted and planned as a primary procedure in conjunction with the primary face-lift.

This study attempted to revise and describe the posterior cervical incision technique and studied it in a series of patients. The patients in this study who presented with excessive redundant skin of the neck were treated with the stork lift, which provided excellent lifting of the anterior, lateral, and posterior neck as well as excellent cervicomental angles without the postoperative sequelae of lateral neck folds or stepped hairlines. Furthermore, the patients often stated that they were also pleased with the additional lift they received in the posterior cervical area.

We believe the stork lift more thoroughly addresses the issue of excessive skin of the anterior and lateral neck, yielding excellent results while avoiding lateral neck folds and steps in the posterior hairline.

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