



# Positioning the scar of the region brachioplasty upper arm in ex-obese patients

*Posicionamento da cicatriz da braquioplastia na região posterior do braço em pacientes ex-obesos*

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## ABSTRACT

**Introduction:** Brachioplasty is the surgical treatment of severe ptosis of the arm tissues, which is located on the inside and bottom, extending from the armpit to the elbow when the arm is in abduction, having or not fat deposits. **Objective:** The objective of this work is to show the positioning of the brachioplasty scar in the lower region of the arm, viewed only afterwards, in ex-obese patients, not being visible by patient or whoever is before him or her, during the arm abduction. **Methods:** 18 patients were selected and undergone bilateral brachioplasty with lower region positioning of the scar. **Results:** the satisfaction degree of the patients with the scar positioning in this region was relevant, allowing it to be imperceptible during arm abduction by the patient or whoever is before him or her. **Conclusions:** The surgical technique applied to brachioplasty is safe and reproducible, constituting a good alternative to disguise the scar in this region, important factor in ex-obese patients' surgery.

**Keywords:** Reconstructive Surgical Procedures. Arm/Surgery. Weight Loss. Surgery, Plastic/Methods.

## RESUMO

**Introdução:** A braquioplastia consiste no tratamento cirúrgico da acentuada ptose dos tecidos do braço, que se localiza na região interna e inferior, estendendo-se da axila ao cotovelo, quando o braço está em abdução, contendo ou não depósito de gordura. **Objetivo:** O objetivo deste trabalho é mostrar o posicionamento da cicatriz da braquioplastia na região inferior do braço, visto somente posteriormente, em pacientes ex-obesos, não sendo visível pelo paciente ou por quem estiver à sua frente durante a abdução do braço. **Métodos:** Foram selecionados 18 pacientes, realizando-se a braquioplastia bilateral, com posicionamento da cicatriz na região inferior. **Resultados:** O grau de satisfação dos pacientes com o posicionamento da cicatriz nesta região foi elevado, permitindo que a mesma fique imperceptível durante a abdução do braço, não sendo vista pelo paciente ou por outra pessoa que se encontre em sua frente. **Conclusões:** A técnica cirúrgica apresentada para braquioplastia é segura e reprodutível, constituindo uma boa opção para disfarçar a cicatriz nesta região, fator importante na cirurgia dos pacientes ex-

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**Descritores:** Procedimentos Cirúrgicos Reconstructivos. Braço/Cirurgia. Perda de peso. Cirurgia Plástica/Métodos.

## INTRODUCTION

Patients who have experienced significant weight loss often exhibit marked ptosis of the lower arms during abduction, from the axilla to the elbow. This results in an exaggerated convex contour with or without a fatty deposit. Brachioplasty is the surgical treatment of this deformity; in most cases, this is performed by dermo-fat resection and flap creation by sliding. The procedure may or may not be associated with lipoaspiration.

The techniques and strategies described for brachioplasty are rarely used by plastic surgeons and are seldom accepted by patients because of the high visibility of scars and frequent complications. Several authors have greatly contributed to the development of these techniques and strategies. The first of such authors was Posse<sup>1</sup>, who described elliptical excision in the medial portion of the arm. Moreover, Correa-Iturraspe & Fernandez<sup>2</sup> and Pitanguy<sup>3</sup> reported an S-shaped incision. Meanwhile, over 35 years previously, Baroudi<sup>4</sup> recommended positioning the scar in the bicep crease. Franco and Rebello<sup>5</sup> reported an L-shaped incision. Moreover, Illouz<sup>6</sup> reported the lipoaspiration technique. Juri et al.<sup>7</sup> reported the quadrangular flap with a final T-shaped scar. Lockwood<sup>8</sup> described the facial suspension system. Finally, Márquez & Abramo<sup>9</sup> reported the joint treatment of arm, axilla, and elbow.

Accordingly, this study reports a technique for better positioning of the brachioplasty scar by placing it on the lower arm (when viewed posteriorly), thereby preventing the unsuitable position along the bicep crease, which is visible when the arm is abducted. Other authors have published reports on this topic, including Aly & Cram<sup>10</sup> in 2006, Maciel<sup>11,12</sup> in 2008, and Kathib<sup>13</sup> in 2009.

### Patient selection and assessment

For better surgical indications, Baroudi & Ferreira<sup>14</sup>, Aly & Cram<sup>10</sup>, and Maciel<sup>11,12</sup> divided patients into 3 groups. Group II that includes patients with sagging and little or no lipodystrophy is the most common. Such cases exhibit large deflation, and surgery results in better esthetic results (Fig. 1). It is important to assess the surrounding areas, especially the lateral torso and dorsal breast (Fig. 2) with regard to the sagging and quality of skin, remaining

fat, and presence of stretch marks, indicating combined surgeries in this area that aim to achieve good results in the entire affected area.



Figure 1 - Patient with marked sagging without lipodystrophy.



Figure 2 - Assessment of surrounding areas.

## METHODS

For decades, several established techniques and several Brazilian and foreign authors have recommended that the final position of the scar should be in the brachial groove (e.g., Baroudi<sup>4,15</sup> and Baroudi & Ferreira<sup>14</sup>) or 2 cm below the bicep groove. In the present study, 18 patients were asked to

choose the position of the final scar: in the bicep groove (Fig. 3, black) or lower arm (Fig. 4, red). We explained to all patients that it is not always possible to accurately place the scar in the lower arm and showed them photographs as examples. All patients signed an informed consent form before surgery.



**Figure 3** - Position of the scar along the biceps groove.



**Figure 4** - Posterior view of the scar position scar in the lower arm, as proposed by (by Aly et al.1).

**Marking**

Marking was performed 1–2 days before surgery by bidigital maneuver (anterior and posterior) while the patient was sitting with arms abducted at 90 degrees (Fig. 5). An ellipse extending from the armpit to elbow was drawn, passing through the medial epicondyle of the humerus when necessary. In surgeries suited to the lateral trunk, Baroudi<sup>14</sup> and Maciel<sup>11,12</sup> do not recommend z- or w-plasty but only a small scar in the axillary cavity. After marking, the patient was positioned in the supine position with the arm extended 180 degrees to better visualize symmetry (Fig. 6). Finally, the points were tattooed with methylene blue by using a hypodermic insulin needle.



**Figure 5** - Bidigital pinching maneuver to mark the anterior and posterior regions.



**Figure 6** - Patient position with arms extended 180 degrees, allowing better assessment of symmetry.

**Technique**

The surgery was performed under local anesthesia and sedation. The patient was positioned with the arms abducted 90 degrees relative to the body. First, an incision was made according to the anterior marking (Fig. 7); this was followed by bipartition of the flaps for better reliability (Fig. 8), because there is a tendency to over-mark when the arm is abducted owing to tissue ptosis. After resection, suturing was performed in 3 or 4 layers.

**RESULTS**

The degree of patient satisfaction with brachioplasty is more important than that with thigh surgery, because the arm is more exposed than the thigh, making it harder to hide deformities. Therefore, we recommend the final position of the brachioplasty scar should be in the lower arm. All patients in the present study were very satisfied with the scar location and final results. Complica-

(Fig. 9) without using drains or leaving a dead space to prevent strain.



Figure 7 - Anterior incision.



Figure 8 - Flat bipartition in 3 different patients.

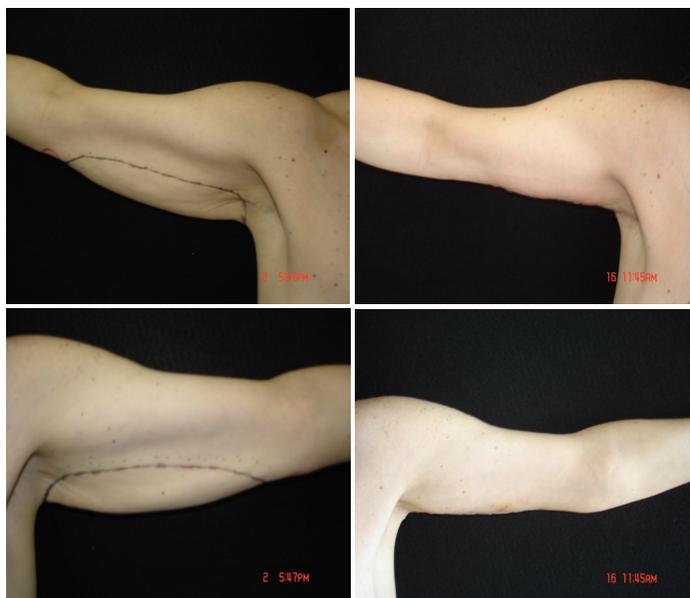


Figure 9—Suture in four layers.

tions including wound dehiscence, scar hypertrophy, and scar enlargement were observed.

During the postoperative period, we instructed patients to rest their arms for 15 days and they were not allowed to lower them; tape or elastic bands and silicon blades were used for 2 months. The patients were warned about the possibility of edema in the limbs, particularly the hands; the edema spontaneously regressed after approximately 15 days. We recommended 12–15 lymphatic drainage sessions for patients who underwent lipoaspiration.

**CLINICAL CASE 1**– Preoperative and 24-month postoperative aspects: the final scar is not visible when viewed anteriorly.



**CLINICAL CASE 2**– Preoperative and 4-year postoperative aspects: good results without a scar visible when viewed anteriorly.



**CLINICAL CASE 3**– Preoperative and 2-year postoperative aspects: the scar is not visible in the photograph taken in the anterior view.



**CLINICAL CASE 3.5**– Day 12 postoperatively; ecchymosis and reddening of the scar. The scar is visible when viewed posteriorly.



**CLINICAL CASE 4**– Scar quality 2 months postoperatively from the right and left sides.



## DISCUSSION

For many years, brachioplasty was rarely performed by plastic surgeons primarily because of the visible scars as well as high rates of complications. However, these techniques and strategies have reemerged with the advent of gastroplasty and better scar positioning, resulting in a high degree of satisfaction in both patients and surgeons. In order to achieve good overall results, it is important that patients are carefully selected for surgery and provided necessary information, and that preoperative marking and surgical technique are properly executed.

## CONCLUSION

The final placement of the gastroplasty scar in the lower arm is a safe and easily reproducible surgical procedure that results in satisfactory outcomes in patients and surgeons. The technique described herein allows the scar to be hidden in the lower arm and ensures that the scar is not visible to the patient or whoever is in front of the patient during arm abduction.

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