Abstract: Hip Asymmetry: Implications in Abdominal Contour Surgery

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The Constriction Arm Band Deformity in Brachioplasty Patients: Characterization and Incidence Using a Prospective Registry

Presenter: Wendy Chen, MD, MS
Co-Authors: Isaac B. James, MD; Jeffrey Gusenoff, MD; J. Peter Rubin, MD
Affiliation: University of Pittsburgh, Pittsburgh, PA

INTRODUCTION: Global demand for post-massive weight loss (MWL) body contouring surgery is increasing. Recent literature has cited an especially dramatic increase in brachioplasty in the United States, from 338 procedures in 2000 to 17,099 in 2015. New challenges are emerging, some without clear solutions. Here we describe our series of arm band deformities not yet been described in the literature.

METHODS: This is a IRB-approved retrospective review of MWL patients undergoing brachioplasty from 2000 to 2016 at our institution. Pre- and postoperative photographs were reviewed to identify patients with this arm band defect. Preoperative photographs and comorbidities were correlated. Descriptive statistics and t-test were used to evaluate the cohort.

RESULTS: In our cohort of 1,090 MWL patients, 172 patients underwent brachioplasty and 25 (15%) were identified with the deformity. Twenty-four (96%) were female with average age 60y [range 36y to 85y], BMI 34kg/m² at time of surgery, 2ys since GBP, and mean delta BMI 22kg/m². When present, one band was observed per arm (100%), and the deformity bilateral in 68%. Bands were in the distal third of the upper arm in 74%. The average combined specimen weighed 1005g, and arm banding was associated with higher BMI at time of operation than patients without the finding (p = 0.002). Importantly, this finding was present preoperatively in all cases and often exacerbated (50%) by brachioplasty.

CONCLUSION: Arm band deformity is a challenging problem in massive weight loss patients. It is usually present pre-operatively and should be discussed during pre-operative counseling, as it's appearance can be exacerbated by surgery. Despite attempts at Z-plasty and scar revision, these bands may not be reversible, especially after a brachioplasty has been performed. We found patients with higher current BMI and large resection weight to be at a higher risk for the arm band deformity after brachioplasty.

Hip Asymmetry: Implications in Abdominal Contour Surgery

Presenter: Munique Maia, MD
Co-Authors: Lauren Shikowitz-Behr, MD; Alan Matarasso, MD
Affiliation: Harvard Medical School - Beth Israel Deaconess Medical Center, Boston, MA

INTRODUCTION: Asymmetry is a known phenomenon in the human body and has been analyzed in multiple areas including the face, breasts, and trunk. Nonetheless, asymmetry of the hips and its implication in body contouring procedures has not yet been reported. Hip asymmetry is common in the general population and may account for uneven abdominoplasty scar and the apparent discrepancies in volume following liposuction of the hips and flanks. The ASIS or iliac crests are often used as landmarks for incision and umbilicus placement. It is crucial to analyze the area preoperatively for proper operative planning and discuss the presence of asymmetry with patients. The goal of this study was to determine the presence of hip asymmetry in healthy females presenting for abdominal contour surgery.

METHODS: Analysis of preoperative standardized photographs of 100 healthy female patients presenting for abdominoplasty was performed by three independent plastic surgeons. They were asked to evaluate for hip asymmetry, and when present, determined which side was higher. Adobe Photoshop CS2 was also used to objectively measure hip asymmetry. Patient demographics were collected. Patients were females with no known history of hip abnormalities. Age range 17–64 (average 43.6). BMI 16–47 (average 23.6).

RESULTS: At least 2 plastic surgeons found asymmetries in 90% of patients. The surgeons noted discrepancies in hip height in 93%, 82% and 63% of patients, averaging 79%. The objective data showed
that 93% of patients have hip asymmetry, and the left hip was higher in the majority of patients, 58%.

**CONCLUSION:** The results showed that the majority of patients who present for abdominal contour surgery have asymmetric hips. Patients are usually unaware of the unevenness of their own hips, however, they often notice postoperative discrepancies in scar height after abdominoplasty or volume differences after liposuction.

Hip asymmetry has become apparent to the senior author, and as a result he utilizes photographic grids as a tool to help identify asymmetries during the preoperative consultation. In the operating room, a crisscross suture technique is used to determine ideal scar placement. Evaluation of preoperative asymmetries is a critical part of the consultation and should be adopted by plastic surgeons performing abdominal contour surgeries. Detailed hip analysis aids in the management of patient expectations, helps with umbilicus/scar placement and mitigates medical-legal issues.

**Reference Citations:**

**Surface Anatomy of the Muscular Abdomen - Variations By Sex and Race**

**Presenter: Eric Pittelkow, MD**

**Co-Authors: Baotram Tran, MD; Will DeBrock, BS; On Ying Liu, MD; Rajiv Sood, MD; Sidhbh Gallagher, MD**

**Affiliation:** Indiana University, Indianapolis, IN

**INTRODUCTION:** The aesthetic muscular abdomen is highly desired by both men and women. Despite its importance in aesthetics, there are few studies identifying the ideal features and measurements.

**METHODS:** Thirty-two male and 41 female participants were recruited from the 2016 NPC Infi nity Fit Championships bodybuilding competition. Abdomens were first categorized into rectus muscle tendinous intersection (TI) configuration. The symmetric category was defined as TI that were inline across both rectus muscles in at least two consecutive tendinous intersections. The chevron TI as any abdomen that demonstrated greater than 15 degrees of arch in two or more consecutive TI on each rectus muscle. The stair step configuration is defined as TI at different levels in at least two consecutive TI on each rectus. Measurements were then taken to determine the dimensions of each abdomen, and subcategorized by sex and race. Pictures from each TI category were compiled into a survey, and sent out on the social media platform Facebook.com. Results were analyzed using the Friedman’s test and Wilcoxon Signed Ranks test.

**RESULTS:** African American male participants demonstrated 69% symmetric, 15% stair stepped, and 15% chevron TI, with aesthetic preference significantly higher for the symmetric configuration (p = <0.001). Caucasian Males demonstrated 53% symmetric, 32% stair stepped, and 15% chevron TI, with aesthetic preference significantly higher for the chevron configuration (p = <0.001). African American female’s TI configurations were 50% symmetric, 33% stair stepped, and 15% chevron, with aesthetic preference significantly higher for the stair step configuration (p = <0.001). Caucasian female’s TI configurations were 72% symmetric, 13% stair stepped, and 15% chevron, with aesthetic preference significantly higher for the symmetric configuration (p = <0.001).

**CONCLUSION:** Symmetric tendinous intersection configuration was the most common for all cohorts. Also, each cohort seemed to demonstrate roughly the same percentage of the chevron configuration (15–17%). The greatest variation in tendinous intersection configuration was observed with stair stepping (13–33%). There was a significant aesthetic preference for one type of TI within