switch from 2 to 1 (21% vs. 7%, p = <.000001). Post-rhinoplasty composite faces were more similar to the “beautiful actresses” composite than the pre-rhinoplasty photos (L2 norm = 0.518 vs. 0.621).

CONCLUSION: We demonstrate that women do not become more “average” after rhinoplasty, but rather trend towards the phenotype occupied by above average beautiful women.

Volumetric Changes of the Mid and Lower Face with Animation and the Standardization of 3D Facial Imaging

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GOALS: 3D photography provides volumetric data and surface topography with sub-millimeter precision, but current methods lack standardization for facial expression and position. For example, smiling can mimic the desired outcomes of a facelift and fat grafting by increasing malar volume while decreasing volume in the jowls. Our goal was to quantify volumetric changes of the mid and lower face caused by facial expression so that we can accurately assess volumetric changes after surgery. Secondarily, we aimed to identify soft tissue landmarks that can be used to detect these changes in facial expression or head position to ensure the standardization of 3D images.

METHODS: 3D facial images of 16 subjects performing 22 facial expressions or changes in head position were captured. Variable degrees of animation during smiling and frowning were also evaluated. Volumetric changes of the malar and jowl regions with facial expressions were quantified using a 3D superimposed image subtraction technique. Translation (movement >1 mm) of 14 standard soft tissue surface landmarks was assessed during various facial animations to determine which landmarks can be utilized to standardize 3D images.

RESULTS: Sixteen of the 22 facial expression studied had a significant effect on malar and/or jowl volume. Significant volume changes were noted with subtle animation during smiling and frowning. During maximal smile, mean excursion of oral commissures was 13.7mm +/- 3.0 and the malar region demonstrated a 17.2mL +/- 5.7 increase in volume, whereas the jowl region demonstrated a 1.7mL +/- 0.9 decrease in volume. During maximal frowning, mean excursion of oral commissures was 7.4mm +/- 2.3. The malar region demonstrated a 3.7mL +/- 2.3 decrease in volume, whereas the jowl region demonstrated a 5.4mL +/- 0.9 increase in volume. In the act of smiling, there was significant volume augmentation of the malar region with small degrees of oral commissure excursion, such that a quarter smile (excursion = 25% of excursion with maximal smile) could induce a volume change equivalent to 75% of maximum smile. The jowl decreases in volume with smiling, but in a linear fashion (a quarter smile yields a volume change equivalent to 25% of a maximum smile). Frowning exhibited the opposite, but similarly significant changes in mid and lower facial volume. A 1mm commissure excursion during smiling can produce 5-10mL of malar augmentation or 2-4mL of jowl augmentation with frowning. We believe these results are related to isometric contraction of mimetic muscles and their influence on fat compartments.

CONCLUSION: Most facial expressions will lead to translation of the oral commissures, with even a subtle (1mm) excursion leading to 5-10mL of malar augmentation during smiling or 2-4mL of jowl augmentation during frowning. We identified that the glabella, pogonion, laryngeal prominence, and bilateral cheilion can be used as a referencing system to allow identification of subtle changes in head position and facial expression for standardization of 3D images.

Where Do We Look? Assessing Gaze Patterns in Cosmetic Facelift Surgery with Eye Tracking Technology

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PURPOSE: Aesthetics plays a central role in determining success in plastic and reconstructive surgery, particularly following cosmetic surgery. As such, understanding perceptions of favorable aesthetics following cosmetic procedures is critical to ensure patient satisfaction. Eye-tracking technology offers an unbiased way to evaluate attention and understand how viewers direct their focus in patients who undergo such procedures.

METHODS: Thirty-six subjects with plastic surgery experience ranging from layperson to attending plastic surgeon were shown 15 sets of photos before and after patients underwent an elective facelift procedure. They were instructed to examine and evaluate the overall aesthetic quality on a 1-to-10 Likert scale, while eye-tracking equipment from Tobii Technology was used to track their gaze and analyze the distribution of attention during the viewing task. Ten areas of interest (AOIs) were pre-defined for analysis: eyes (2), cheeks (2), chin (2), neck (2), nose, and mouth. The primary metrics evaluated were the fixation duration, fixation location, fixation count, and time to first fixation.

RESULTS: Post-operative images showed an average Likert score improvement of 0.51 ± 0.26 points, with the greatest inter-group difference seen in attending cosmetic plastic surgeons (1.36 ± 0.22; p < 0.05). Plastic surgery residents demonstrated the longest time to first fixation (0.64 ± 0.35 seconds), while laypersons demonstrated the shortest time to first fixation (0.21 ± 0.16 seconds); attending cosmetic plastic surgeons’ times were intermediate (0.32 ± 0.26 seconds). The nose was the most common location of first fixation for all subjects (31% of all first fixations) and was also the most viewed area (16 ± 3% of all fixations), while AOIs relevant to facelift procedures (cheeks, chin, and neck) received 19 ± 4% of all fixations in both pre-operative and post-operative images. Experienced surgeons spent less time in non-relevant AOIs (30 ± 11% for attending cosmetic surgeons and 37 ± 10% for attending non-cosmetic plastic surgeons) compared to subjects with less experience (50 ± 15% for laypersons and 48 ± 11% for medical students).

CONCLUSION: Eye tracking provides an objective way to evaluate viewers’ attention and correlate gaze data metrics with clinical aesthetic outcomes. This study suggests that viewers with greater experience in cosmetic surgery tend to focus more quickly on areas of interest relevant to facelifts, such as the cheeks, chin, and neck and have a more evenly distributed gaze pattern across the entire face. Conversely, layperson assessments of aesthetic outcomes may largely be driven by the first facial feature that catches their attention, which most frequently tends to be the nose. Given the emphasis on visual aesthetics in cosmetic plastic surgery, our results suggest that visual gaze can be a useful adjunct in educating patients undergoing facelift procedures on the potential range of aesthetic outcomes.

Face Lift in Patients on Mandatory Anticoagulants, Safety, Efficacy and Complications

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BACKGROUND: A facelift is currently one of the most requested aesthetic procedure, with increasing demand among patients who seek aesthetic plastic surgery. In addition, the number of patients taking anticoagulants in which the prescriber disagrees to stop therapy, who request treatment for the aging face, has been increasing constantly over the years.

PURPOSE: The purpose of this study is to examine the level of safety in these patients, the optimization of the process, side effects and complication.

MATERIALS AND METHODS: A consecutive series of patients who underwent facelift under mandatory anticoagulant between the years 2010 - 2017. All patients operated under local anesthetic with IV sedation. Meticulous hemostasis is mandatory, and biologic glue was available at all cases. Chart review including before and after photographic records, time to full recovery, side effects, complications and the need for redo of any subsequent procedure.

RESULTS: Sixteen patients (14 female and 2 male) at ages ranging from 62 to 89 years old underwent facelift while being treated with anticoagulants at the same time. Traditional facelift incision performed in two patients and the rest underwent direct excision face and neck lift. Ten patients were happy with the results above their expectations (63%), 4 were pleased with results but expected to tighter appearance (25%), two request for touch up and