METHODS: The ACGME Plastic Surgery Operative Log database was used to obtain data on graduating resident case volumes between 2008–2018. Data on total reconstructive and subcategory cases were analyzed. Trends in average case volumes and standard deviations were compared between ICM (2008–2011) and with the introduction of the IM (2011–2018). Variability was defined as the fold difference between the maximum and minimum number of cases per year.

RESULTS: Average case volumes have remained largely consistent over the study period between ICM (1341.6 cases/year) and IM (1508.1 cases/year). The variability between graduating residents has remained large with an average of 2.9 fold difference between programs with the highest and lowest case volumes. This variability has decreased over time (ICM=3.4 fold vs IM=2.8 fold). Trends for subcategory case logs reflect this great variability: microsurgery (23.9 for ICM vs 15.2 for IM), cleft lip (44.0 for ICM vs 8.24 for IM), cleft palate (19.3 for ICM vs 11.6 for IM), hand and upper extremity (7.3 for ICM vs 5.9 for IM), and head and neck trauma (8.9 for ICM vs 7.6 for IM). Minimum requirements have remained relatively consistent despite the transition to the IM.

CONCLUSION: Graduating plastic surgery resident case volumes reflect great variability between programs—a trend that has remained relatively consistent despite transitioning from the ICM to the IM. These data reveal a need to reevaluate whether the required case minimums truly reflect the volume threshold to achieve competency for the average trainee, or whether the current model allows for redundancy. Plastic surgery training could be improved by identifying educational needs based on trainee competency and customizing operative experience within program specific opportunities.

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Leadership in Plastic Surgery

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BACKGROUND: The pathway to leadership in plastic surgery remains uncertain. While certain residency programs are more represented among academic plastic surgeons, the relationship of training on leadership has never been established. The aim of this study was to determine the impact of plastic surgery training on leadership.

METHODS: First, a cross-sectional study examined the demographics and training of plastic surgery faculty within ACGME-accredited programs. Second, a retrospective review examined similar parameters among past presidents of plastic surgery societies (American Association of Plastic Surgeons, American Society of Plastic Surgeons, Plastic Surgery Foundation, and Plastic Surgery Research Council). Data was gathered from institutional websites and society websites. Frequencies of leaders who trained at each institution during plastic surgery residency or fellowships were calculated.

RESULTS: Among the 287 institutional leaders (112 chairs or chiefs, 109 residency directors, and 66 fellowship directors) 90 training programs were identified that contributed to their training. However, the top ten training programs accounted for 41% of the residencies and fellowships individuals received. The top five programs included University of Pittsburgh, Johns Hopkins University, New York University, University of Pennsylvania, and Harvard Medical School, respectively. Similarly, the 230 past presidents across societies trained in 51 programs, but the top ten accounted for 51% of their training. The top five institutions were Johns Hopkins University, Duke University, Harvard Medical School, Washington University-St. Louis, and University of Pennsylvania, respectively. Across datasets, the top eight leadership producing institutions remained constant.

CONCLUSION: This study suggests that an elite cohort of institutions has consistently produced a large portion of the leaders in plastic surgery, suggesting that they have consistently fostered an aptitude for leadership among their trainees.

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Is a Hands-On Simulation Model a Better Way to Teach Distal Radius Fracture Reduction and Splint Placement?

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BACKGROUND: Surgical residency programs are increasing the use of simulation based training to provide skill acquisition through tactile feedback while removing the stress associated with an actual patient situation. We aim to compare subject confidence and satisfaction with two learning modalities for teaching distal radius fracture (DRF) reduction.

METHODS: A prospective cohort study of plastic surgery residents was conducted at our institution. Group 1
RESULTS: Seventeen residents participated in the study (Group 1, n=8; Group 2, n=9). No differences existed between groups when comparing PGY years (3.4 vs. 4.0 years, p=0.49), time on hand services (3.0 vs. 3.3 months, p=0.80), and number of prior reductions performed (5.9 vs. 7.2 reductions, p=0.68). Confidence as measured in our 5-question pre-simulation survey did not show a significant difference between groups (p=0.14). The post-simulation survey results demonstrated a greater confidence score for Group 1 although not significant (84% vs. 78%, p=0.34); however, those residents felt significantly more confident in diagnosing a distal radius fracture by physical exam (p=0.023). Additionally, Group 1 reported greater learning satisfaction in every category in the 6-question survey (max score 5 – stimulating 4.6 vs. 3.3, p=0.0007; interesting 4.6 vs. 3.1, p=0.0001; learning satisfaction 4.9 vs. 3.8, p<0.0001; clarity 5 vs. 3.9, p<0.0001; effectiveness 4.9 vs. 3.6, p=0.0013; likelihood to recommend 5 vs. 3.7, p<0.0001). 

CONCLUSION: Plastic surgery residents who performed a DRF reduction simulation reported increased confidence and had greater learning satisfaction when compared to residents who watched a video tutorial. We demonstrate that simulation based education can be an effective and stimulating model for training residents. Further investigation will examine if persistence of learning existed in both groups by assessing clinical and radiographic results of a simulated DRF reduction.

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Plastic Surgery Milestones Competencies and Chief Year Cosmetic Case Volume: Is There a Relationship?

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BACKGROUND: The Milestones program in Plastic Surgery was established by the Accreditation Council for Graduate Medical Education (ACGME) in 2014 in order to standardize evaluations in a range of reconstructive, cosmetic, and general competencies foundational to Plastic Surgery education. However, despite the widespread belief that clinical exposure is fundamental to competency achievement, to our knowledge, there have been no studies evaluating the association between achievement of Plastic Surgery Milestones competencies and volume of cases performed in those clinical areas. Therefore, we sought to begin exploring this topic by evaluating the association between volume of cosmetic cases performed by chief residents and their levels of achievement in respective Milestones competencies.

METHODS: A retrospective review of operations performed by chief residents at our primary training institution was conducted for eight residents graduating from 2015 – 2018. Cosmetic cases were isolated and classified by type of operation. The association between cosmetic case volume and levels of achievement in respective Milestones competencies was performed using Spearman’s rank correlation coefficient (p < 0.05).

RESULTS: No significant association existed between volume of chief year cosmetic cases at our primary training institution and levels of achievement in Milestones competencies in Facial Aesthetics Patient Care (r = 0.53, p = 0.18), Facial Aesthetics Medical Knowledge (r = -0.58, p = 0.25), Non-Cancer Breast Surgery Patient Care (r = 0.43, p = 0.29), Non-Cancer Breast Surgery Medical Knowledge (r = -0.58, p = 0.13), Cosmetic Trunk and Lower Extremity Patient Care (r = 0.23, p = 0.64), and Cosmetic Trunk and Lower Extremity Medical Knowledge (r = -0.58, p = 0.25).

CONCLUSION: The lack of significant association between chief year cosmetic case volume and levels of achievement in respective Milestones competencies potentially supports the position that competency achievement in surgical education does not have a linear relationship with clinical exposure. However, the minimal variation of Milestones levels achieved by chief year residents may have limited our ability to detect a significant association. Thus, we hope that this study provokes further investigation of the relationship between Milestones competencies and resident case volume throughout all years of Plastic Surgery education.

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Change is Happening: An Evaluation of Gender and Race Disparities in Academic Plastic Surgery

BACKGROUND: Gender and race disparities in academic plastic surgery are known, but in recent years a change in culture has been promoted by professional societies. This study aims to evaluate the effects of these changes at faculty and leadership positions.