**INTRODUCTION:** Variables interacting to predict outcomes following spring mediated cranioplasty (SMC) for non-syndromic craniosynostosis, including springs parameters and calvarial thickness, are incompletely understood. Our previous work confirmed patients with non-syndromic sagittal craniosynostosis have significantly different peri-sagittal suture thickness measurements anteriorly, medially, and posteriorly, and we hypothesized that, based on these topographic thickness variations, springs forces interact differently at the anterior, middle, and posterior positions to predict changes in CI. We further hypothesized that these interactions may be influenced by calvarial thickness at certain distances from the sagittal suture, with thickness measurements more proximal to the suture demonstrating more significant interactions with springs parameters.

**METHODS:** Patients undergoing SMC for non-syndromic sagittal craniosynostosis at our institution between 2014 and 2021 were included. Parietal bone thickness was determined from patient preoperative CTs using Materialise Mimics. Anterior, middle, and posterior points along the suture were defined as 10 mm posterior to the coronal suture, the middle of the parietal bone, and 10 mm anterior to the lambdoid suture, respectively, using the ‘measure’ tool in Materialise 3-matics. Using the same tool, points were marked anteriorly, medially, and posteriorly at distances 5 mm, 10 mm, 15 mm, and 20 mm from the suture bilaterally. Thickness at specific points was determined using the ‘analyze locally’ tool in Materialise 3-matics. Linear mixed effects models (LMEs) in R Studio were used to determine interactions between anterior, middle, and posterior calvarial thickness with anterior, middle, and posterior spring force and length.

**RESULTS:** Sixty-nine patients were included in this study. LMEs revealed posterior spring force interacted with posterior parietal bone thickness to predict changes in CI at three months postoperatively (β = -0.22; 95% confidence = -0.40 – 0.03; p = 0.022). When evaluating spring force and calvarial thickness set distances from the sagittal suture, posterior spring force interacted with posterior calvarial thickness 5 mm (β = -0.19; 95% confidence = -0.37 – 0.01; p = 0.043) and 10 mm (β = -0.31; 95% confidence = -0.06 – 0.01; p = 0.036) from the sagittal suture to predict changes in CI. Interactions between springs parameters and parietal bone thickness in the anterior and middle positions did not significantly predict changes in CI (all p > 0.05).

**CONCLUSION:** Springs forces may interact with parietal bone thickness to predict changes in CI following SMC for non-syndromic sagittal craniosynostosis. Larger posterior spring force may optimally interact with the thicker posterior calvaria to drive changes in CI. These results suggest dynamic interactions between several variables may impact CI following SMC.
surgery program, and seven departments (41%) had an additional independent program. Of the divisions, 66 (86%) had an integrated program and 40 (52%) had an independent residency program. Collectively, these institutions had 1120 plastic surgery faculty. Overall, plastic surgeons had an average lifetime h-index of 11.20, 5-year h-index of 3.40, and m-quotient of 0.58. Stratification by organizational structure revealed significance in academic productivity in departments compared to divisions in the lifetime h-index (14.06 vs. 12.95; p = 0.045) and 5-year h-index (4.36 vs. 3.97; p = 0.018) metrics. There was no significance when considering the m-quotient (0.68 vs. 0.65; p = 0.083), m-RCR (1.36 vs. 1.19; p = 0.22), and w-RCR (31.67 vs. 21.04; p = 0.13).

CONCLUSIONS: Previous literature suggests that the organizational transition of plastic surgery toward departmental status confers quantifiable benefits in academic performance for faculty.2 These previous studies were limited in scope and are outdated. Here, we observed statistically significant differences in academic productivity between departments and divisions of plastic surgery, when analyzing Scopus’ lifetime and five-year h indexes. These findings, in conjunction with the other metrics that were not significant but trended toward increased academic productivity for independent plastic surgery departments can be used to substantiate the benefit of departmental status and for benchmarking the academic productivity of faculty and programs at different institutions.

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TRACK: CRANIOMAXILLOFACIAL/HEAD AND NECK
An Evaluation of Patient-reported Appearance Outcomes following Facial Feminization Surgery in Transgender Women

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PURPOSE: There is an increasing number of transgender and gender diverse (TGD) that seek gender affirming surgery as a part of their gender affirming care. There is a paucity of data on outcomes measured by specifically trans-validated tools after facial feminization surgery. The purpose of this study was to report TGD patient-reported appearance outcomes following facial feminization surgery using a validated questionnaire.

METHODS: TGD patients were surveyed preoperatively and postoperatively at 3 time points utilizing the Post-Affirming Surgery Form and Function Individual Reporting Measure (AFFIRM), a validated patient-reported outcome questionnaire.[1] Patients were surveyed about their appearance and answered questions using a 5-point Likert Scale (1-Strongly Disagree, 2-Disagree, 3-Neither Agree nor Disagree, 4-Agree, 5-Strongly Agree). Data was analyzed in IBM SPSS Statistics using the Wilcoxon Signed Rank Test and results were considered significant if p<0.05. The latest postoperative responses were used as the postoperative measurements for each patient. Descriptive statistics were reported as percentages, medians, and interquartile ranges (Median, IQR).

RESULTS: There were 76 preoperative responses and 65 postoperative responses. Forty patients had preoperative and postoperative responses. Of the individuals with paired responses, 47.5% identified as White, 30% other, 20% African American, 2.5% American Indian or Alaskan, 65% Non-Hispanic, 27% Hispanic, and 97.5% lived in the Northeast United States. Prior to facial feminization surgery, only 3% (2, 1-2) of TGNB patients felt their face/neck had a feminine appearance, but after surgery, this increased to 63% of patients (4, 2.25-4, p<0.001). Moreover, 43% (2.5, 1-4) of patients felt comfortable in public because of this face/neck features following surgery compared to 18% of patients preoperatively (4, 3-5, p=0.013). After surgery, 50% (2.5, 1-4) of patients felt safe in public verse 10% of patients prior to surgery (4, 3.25-5, p<0.001). Lastly, 23% (3, 2-3) of patients felt their families and friends believed their face/neck had a feminine appearance preoperatively compared to 63% of patients following facial feminization surgery (4, 3-5, p=0.002).