consolidation period of 28 days. At post-operative day (POD 43) the distracted tibias of the rainbow mice (n=3) were harvested and imaged using confocal microscopy. Furthermore, the functional assessment of fracture and distracted skeletal stem cells (SSCs) was determined using proliferation (n=5) and osteogenic assays (n=5). Wild-type 10-week-old male mice were divided into two groups: fracture and distraction. At POD 10, fracture and distracted tibias were harvested for fluorescent activated cell sorting (FACS) of SSCs.

**Results:** Rainbow labeling of an uninjured tibia shows successful genetic marking of the diaphysis. During distraction, a clonal expansion of cells is observed preceded by successful bone formation. SSCs sorted from distraction calluses at POD 10 form robust colonies and larger bone nodules in comparison to fracture calluses in vitro. In addition, quantification analysis indicates distraction SSCs form more colonies (***p <0.001) and have increased incidence of in vitro bone formation (****p<0.0001).

**Conclusions:** We demonstrate successful rainbow labeling of the mouse tibia and show clonal expansion of skeletal stem cells in response to distraction. Future studies will delineate the role of SSCs in response to distraction.

**QS33**

**Breastfeeding Capability After Benign Breast Surgery**

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**Purpose:** Many breast surgeons are fearful of operating on young women due to the potential impact on future lactation ability. Despite these concerns, there is extremely sparse data regarding the effect of benign breast surgery on breastfeeding capability. This study aims to elucidate the impact of benign breast surgery on breastfeeding and lactation performance.

**Methods:** Eligible mothers between the ages of 18 and 45 years and between 6 months and 5 years postpartum were recruited to capture their breastfeeding experiences and prior breast surgery history. All data were self-reported.

**Results:** A total of 85 participants were included in analyses, with a mean age of 33.6 years. Fifteen mothers were previously diagnosed with a breast condition, most commonly breast cysts (6), fibroadenoma (3), and macromastia (2). Sixteen mothers underwent breast surgery: augmentation (5), reduction mammaplasty (4), and biopsy (4). More than 80% of mothers successfully breastfed or fed breast milk from the bottle, regardless of history of breast surgery (p = 0.578). Most mothers with and without previous breast surgical history reported moderate to extreme difficulty while breastfeeding (40% v. 60%, respectively, p = 0.338). Breastfeeding satisfaction did not differ significantly by breast surgery status (p = 0.999).

**Conclusion:** This study is among the first to suggest that breast surgery does not significantly impact breastfeeding ability. Although more data are necessary to generalize results, our findings suggest that benign breast surgery is safe in young women and should not preclude otherwise healthy young women from enjoying the benefits of breast surgery for fear of impairing future lactation.

**QS34**

**Establishing Normative Values For Adolescent Quality Of Life Studies In Plastic Surgery**

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**Purpose:** Adolescence is a challenging time and an increasing number of young people are seeking plastic surgery. With the rise of health-related quality of life (HRQoL) studies in plastic surgery, it is critical to understand the natural variation and changes in HRQoL for this population.

**Methods:** The following validated surveys were administered to male and female control subjects, aged 12-21 years: Short-Form 36v2 (SF-36), Rosenberg Self-Esteem Scale (RSES), Breast-Related Symptoms Questionnaire (BRSQ; females only), and Eating-Attitudes Test-26 (EAT-26). Subjects completed surveys at baseline and at 6 months, 1 year, 3 years, 5 years, and 7 years follow-up.

**Results:** A total of 211 female and 152 male subjects were included, with a mean follow-up time of 3.1 years. The
mean age and follow-up time, and BMI category distribution did not vary by sex. From baseline to most recent follow-up, female subjects experience significant declines in 4 SF-36 domains (general health, vitality, role-emotional, and mental health) and on the RSES, BRSQ, and EAT-26. During the study period, however, male subjects’ HRQoL remained stable.

Conclusions: Adolescence is a challenging time, on which plastic surgery-related concerns are superimposed. In a sample of control subjects, girls’ HRQoL, self-esteem, and eating attitudes and behaviors significantly worsened as they progressed through adolescence. This is an important observation, and is critical for the interpretation and contextualization of HRQoL in adolescent plastic surgery patients.

QS35
Decreasing Opioid Consumption In Autologous Free-flap Breast Reconstruction Patients With Eras Protocols - An Examination Of Sustainability And Patient Reported Outcomes

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Introduction: Given the opioid crisis in the United States, increased focus has been placed on multimodality perioperative pain regimen and enhanced recovery pathways (ERPs). Enhanced recovery pathways (ERPs) aim to achieve early, postoperative recovery and improve surgical and quality of life outcomes. However, there is limited data regarding ERP’s efficacy in decreasing opioid consumption for autologous, free-flap breast reconstruction patients. This study aims to determine the efficacy of ERPs on patient outcomes, primarily focusing on opioid consumption and physical well-being among autologous, free-flap breast reconstruction patients.

Methods: A multidisciplinary ERP was developed for patients undergoing autologous free-flap breast reconstruction in April 2015 at this tertiary care center. ERP patients underwent breast reconstruction after April 2015 and were compared with a non-ERP cohort (reconstructions before from 2007 to 2015). Core elements of this ERP included a multimodal pain regimen of intravenous ketorolac, aspirin, and transversus abdominis plane blocks with liposomal bupivacaine. The primary outcome was total postoperative opioid consumption (intravenous morphine equivalents [IV-ME]). An analysis of factors influencing high versus low opioid consumption was conducted. Secondary outcomes included overall complications and short-term patient-reported outcomes using the BREAST-Q.

Results: Among 602 included patients, 230 were in the ERP and 372 in the non-ERP cohort. There was a significant decrease in average total intraoperative (ERP: 29.71 IV-ME; non-ERP: 41.00 IV-ME; p<0.001) and postoperative inpatient morphine (ERP: 69.10 IV-ME; non-ERP: 116.00 IV-ME; p<0.001) for ERP patients versus non-ERP patients. ERP patients were more likely to receive ketorolac intra-operatively (p<0.001) and postoperatively (p=0.001) compared to non-ERP patients. Complications did not differ between the two groups (p= 0.232). Examining patient reported outcomes; there were no significant differences in BREAST-Q Physical Well-being of the Chest or Physical Well-being of the Abdomen scores at three-months postop.

Conclusion: ERPs are an effective strategy to systematically reduce opioid consumption in ABR patients, both intraoperatively and postoperatively without impacting perioperative complications. Such protocols may not directly alter patient reported physical wellbeing, which warrants further examination.

QS36
Spatial Fidelity Of Microvascular Perforating Vessels As Perceived By Augmented Reality Holographic Projections

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Purpose: Breast reconstruction using free-tissue transfer yields improved long-term aesthetic results as reported by patients, but requires increased resources of practitioners.