with and without ADM were identified from the NSQIP database utilizing CPT codes. Covariates included patient demographics, preoperative comorbidities, and operative characteristics, while outcomes of interest were postoperative infection and reoperation. A univariate and multivariate analysis were performed to identify predictors of adverse outcomes.

RESULTS: There were 8,334 patients in the ADM cohort and 12,451 patients who underwent tissue expander breast reconstruction without ADM. There were significantly fewer reoperations in the non-ADM cohort (7.7%) compared to the ADM cohort (5.4%) (p<0.0001), with infection and hematoma as the most common etiologies in both cohorts. Surgical infections were also more prevalent in the ADM cohort (4.7%) compared to the non-ADM cohort (3.6%) (p<0.0001). Univariate and multivariate analysis of the tissue expander breast reconstruction cohort revealed race, obesity, hypertension, smoking status, albumin, and operative time as predictive for infection risk, while race, obesity, hypertension, smoking, albumin, operative time, and age were significant for reoperation.

CONCLUSION: Our study of 20,817 patients revealed significantly higher risk of infection and reoperation in patients who underwent breast reconstruction utilizing ADM compared to those without ADM. Patients considering ADM for breast reconstruction should engage in discussion with their provider about complications, aesthetics, and cost.

TRACK: PRACTICE MANAGEMENT
Malpractice Claims in Plastic Surgery: Descriptive-Comparative-Predictive

Presenter: David Feldman, MD
Co-Author: Veronique Grenon

PURPOSE: Plastic Surgeons face unique issues with professional liability claims due to the nature of plastic surgery practice, in particular the mix of both reconstructive and cosmetic procedures. The relatively rare occurrence of a malpractice claim for any individual plastic surgeon makes it unlikely that techniques to reduce malpractice risk are evident. In this analysis we looked at ten-years of malpractice claims filed against plastic surgeons insured through The Doctors Company Group (TDCG). All claims and suits filed against TDCG insured plastic surgeons from 2009 to 2021 were analyzed and compared with claims against surgeons in other specialties over the same time frame. Data was stratified according to several different variables including patient demographics, case type, injury, and contributing factors/risk management issues. A logistic regression analysis was performed to identify those variables associated with medical malpractice payments. Of the 1,708 claims against plastic surgeons, 90% were on behalf of female patients, and the average age of a claimant was 45 years old. Comorbidities of claimants included smoking in 6.9% and obesity in 6.4%. Ninety-two percent of claimants had ambulatory surgery or a procedure. The top three surgeries in claims were breast reduction (21.8%), breast augmentation (17.2%), and breast reconstruction (11.8%). When compared to 7,202 non-plastic surgery claims, plastic surgery claims were more likely to concern the surgery itself (53.8% v 41.3%, p<.001), or the performance of a procedure (9.4% v 4.7%, p<.001). Non-plastic surgery claims were more likely to be diagnosis related (11.3% v 1.8%, p<.001). Cosmetic injury was most common in cosmetic breast surgery claims - augmentation (33.3%), and lift (28.1%), compared with reconstructive breast surgery claims - reconstruction (19.4%), and reduction (14.8%). Need for additional surgery was most common in claims involving breast reconstruction (52.7%). Contributing factors including selection of procedure or therapy, poor technique, and known complications were present in 86% of the plastic surgery claims compared with 91% of the non-plastic surgery claims (p<.001). In 38.8% of plastic surgery claims patients sought other providers due to dissatisfaction with their surgeon, a factor in only 17.1% of non-plastic surgery claims (p<.001). Factors that might have helped to preclude the bringing of a lawsuit typically involving communication with patients and family, were more common in plastic surgery claims (59.4%) than in non-plastic surgery claims (36.6%, p<.001). Specifically, there were unmet expectations in 14.4% of plastic surgery claims, but in only 3.8% of non-plastic surgery claims (p<.001). A similar percentage of non-plastic surgery claims closed with no indemnity payment (26.6%) as plastic surgery claims (25.3%) but there was a 3.7 times greater likelihood of a plastic surgery claim closing with payment when a documentation issue was present. This analysis points to the issues confronting plastic surgeons when considering malpractice risk reduction. Managing patient expectations is critical, especially when patients undergo cosmetic surgery. Breast surgery is the most litigious group of procedures plastic surgeons perform, and
good documentation is more likely to result in no payment being made when there is a claim.

**TRACK: HAND AND UPPER EXTREMITY**

**Cost Efficiency of Leech Therapy Duration for Revascularized and Replanted Digits with Venous Congestion**

**Presenter:** Samantha King  
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**PURPOSE:** Venous congestion is a common complication following digital revascularization and replantation which threatens immediate survival of the digit. Leech therapy is an accepted therapeutic option to relieve venous congestion. The duration and efficacy of leech therapy varies and may prolong hospital length of stay requiring significant hospital resources. Previous studies evaluated the difference in Quality Adjusted Life Years (QALY) of salvaging a dysvascular digit and immediate revision amputation.1 The purpose of this study was to evaluate the cost efficiency of leech therapy duration for treatment of venous congestion.

**METHOD:** Retrospective review was performed to identify patients who underwent revascularization or replantation procedures for incomplete or complete digital amputations at a level 1 academic trauma center from January 2005 to December 2020. Only patients requiring leech therapy for venous congestion were included in the study. Leech therapy was started immediately after any signs of venous congestion appeared and was continued until either the congestion resolved or the digit lost viability. Leech therapy duration, digit survival, length of hospitalization, and hospitalization costs were obtained. Cumulative Incremental Cost Effectiveness Ratios (ICER) for each additional day of leech therapy were calculated using hospitalization cost, incremental leech success rate, and incremental QALY assumptions per published literature for one digit, a thumb, and multiple digits.1 Cost efficiency was analyzed by comparing calculated cumulative ICER of daily leech therapy to commonly accepted $/QALY cost efficiency thresholds of $50,000, $100,000, and $150,000.1

**RESULTS:** Of the 213 digits that underwent revascularization (n = 135) or replantation (n = 78), venous congestion requiring leech therapy developed in 53 total digits. Leech therapy failed in 15 digits (56%) and 17 digits (65%) for the revascularization and replantation groups, respectively. Leech therapy duration ranged from 1 to 15 days (median of 5 days in both groups). Success rate diminished over time such that leeching for 1 to 3, 4 to 7, >7 days had success rates of 69%, 42% and 8% respectively. Hospitalization costs ranged from $12,622 to $123,563, and the average cost of an additional day of leech therapy was $2,951. Overall cost efficiency of leech therapy diminished with longer therapy duration, lower $/QALY threshold and lower relative importance of the leeched digit. Using the standard cost-efficiency $/QALY cutoff value of $100,000, leech therapy becomes cost inefficient after three days, five days, and seven days for one digit, a thumb, and multiple digits, respectively.

**CONCLUSION:** The cost efficiency of leech therapy for treatment of venous congestion of replanted and revascularized digits diminishes with time, ranging from 0 to 7 days depending on incremental QALY assumptions and cost efficiency thresholds. These data can help aid in determining the utilization of leech therapy and appropriate timing of treatment cessation based on cost efficiency for venous congestion in replanted and revascularized digits.

**REFERENCES:**
1. Elmaraghi S, Israel JS, Gander B. Systematic Review of Replant Salvage and Cost Utility Analysis of Inpatient Monitoring After Digit Replantation. J Hand Surg Am. 2022;47(1):32-42.e1. doi:10.1016/j.jhsa.2021.07.024

**TRACK: RESEARCH/TECHNOLOGY**  
**PAPER**

**A History of Mechanical Tension Depletes Lgr6+ Epidermal Stem Cells**

**Presenter:** Ainsley Taylor  
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**PURPOSE:** Recent research found the epidermal Lgr6 stem cell population to be progressively depleted under mechanical tension, with a paralleled increase in the Lgr6 descendant population.1 This study aims to determine if...