blood samples were taken for serial assessment of rejection and mixed chimerism respectively.

**Results:** Both subjects remained rejection-free clinically and on histology for 2 months. Following conditioning, one generated mixed chimerism (96-97% granulocytes and 7-11% lymphocytes of donor-origin) at 2-3 weeks post-DBMT. Subsequently, both NHPs had to be terminated from study on POD 77 and 86 due to progressive weight loss from underlying PTLD of recipient-origin.

**Conclusion:** In both clinical patients and experimental NHP, acute rejection of VCA is nearly inevitable in the early post-transplantation period despite current immunosuppression regimens. The enhanced local drug delivery from FK506 implants in this study has shown promise in preventing acute rejection which would negate successful tolerance induction due to sensitization (as has been observed in previous delayed tolerance induction models in solid organ transplantation). This adjunct may allow reduction of overall immunosuppression load and improve patient compliance to avoid unnecessary VCA loss. Most importantly, it represents a promising bridge towards the development of future tolerance protocols based on mixed chimerism.

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**Optimizing Carpometacarpal Arthroplasty Of The Thumb: A Prospective Clinical Trial Comparing Suture Suspension To Ligament Reconstruction And Tendon Interposition**

Debra A. Bourne, MD¹, Ian Chow, MD², Dann Laudermilch, MD², Benjamin Schilling, BS³, Wesley Sivak, MD, PhD², William Hagberg, MD⁴, Marshall Balk, MD⁴, Glenn Buterbaugh, MD⁴, Joseph Imbriglia, MD⁴, John Fowler, MD²

¹University of Kentucky, Lexington, KY, USA, ²University of Pittsburgh Medical Center, Pittsburgh, PA, USA, ³University of Pittsburgh, Pittsburgh, PA, USA, ⁴Wexford Hand and UpperEx Center, Pittsburgh, PA, USA.

**Background:** Thumb carpometacarpal (CMC) arthritis is the most commonly performed surgical reconstruction for arthritis in the upper extremity. The most common technique is the ligament reconstruction and tendon interposition (LRTI) where, following trapeziectomy, the flexor carpi radialis (FCR) tendon is passed through a bone tunnel at the base of the first metacarpal to reconstruct the palmar oblique ligament and prevent collapse, with the remaining tendon used to fill the space vacated by the trapezium. In 2009 DelSignore published the suture suspension technique in which, after trapeziectomy, the FCR is sutured to the abductor pollicis longus to create a sling under the first metacarpal to correct subluxation and maintain the joint space. The purpose of this study is to compare outcomes between to the two techniques and determine if one is superior.

**Methods:** Following IRB approval, 38 consecutive patients undergoing CMC arthroplasty for basilar thumb osteoarthritis were enrolled by four senior, fellowship trained surgeons; two of whom prefer the LRTI technique and two who routinely perform suture suspension arthroplasty. Outcome measures were recorded including: first metacarpal subsidence measured on radiographs, thumb range of motion, pinch and grip strength, functionality assessed through the Disability of Arm, Shoulder and Hand (DASH) and Michigan Hand Questionnaires (MHQ), and pain measured on a 10-point Visual Analog Scale (VAS).

**Results:** Both techniques are effective at reducing pain with a decrease from baseline to 6-weeks post-procedure of 5.5±1.8 to 3.1±1.9 (p=0.030) in the LRTI group and 5.8±2.1 to 2.2±2.8 (p<0.001) in the suture suspension group. The suture suspension technique resulted in greater thumb abduction at 6-weeks compared to LRTI (61.3°±12.7° versus 39.5°±16.9°, p=0.018). LRTI resulted in more limited opposition at 6-weeks post-procedure (p=0.002). There was no significant difference in thumb extension, grip or pinch strength. Both techniques improved functionality from baseline to 6-weeks post-operative based on the MHQ (LRTI 47.3±8.2 to 53.8±9.9, p=0.037; suture suspension 46.9±6.9 to 57.0±11.7, p=0.012). There was significant radiographic subsidence in both groups with 32.4%±3.9% for suture suspension and 55.3%±6.0% for LRTI at 2-weeks post-operative (p<0.001), however, subsidence was significantly less for suture suspension compared to LRTI (p=0.005).

**Conclusions:** LRTI and suture suspension arthroplasty techniques are equally effective for improving pain and functionality. Both techniques are subject to some subsidence of the first metacarpal. The suture suspension technique has less restriction of abduction and opposition in
the early post-operative period as well as less radiographic subsidence of the first metacarpal.

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Does Fluorescent Angiography Reduce Postoperative Complications After Breast Reconstruction? A Propensity-score Matched, Cohort Analysis

Victor Vakayil, MBBS, MS, MPH, Matthew Rich, MD, Christopher Stewart, MD, Ashish Mahajan, MD, Nicholas Kim, MD, Umar Choudry, MD

University Of Minnesota, Minneapolis, MN, USA.

Purpose: There remains a paucity of randomized clinical trials or high-grade evidence substantiating the use of fluorescent angiography following reconstructive breast surgery. We utilize a national, multi-institutional, surgical outcomes database to design a pseudorandomization study that evaluates the comparative effectiveness of fluorescent angiography during breast surgery.

Methods: Using the American College of Surgeon National Quality Improvement Program database, we performed a retrospective, exposure-matched, cohort analysis over a 13-year period (2005-2017). International Classification of Disease-9/10 codes along with Current Procedure Terminology codes were used to identify all patients undergoing mastectomy with immediate implant-based, expander-based, or autologous breast reconstruction. We stratified patients into two cohorts: those receiving and not receiving fluorescent angiography (FA & nFA groups). We used propensity-score matching to mitigate selection bias and reduce baseline heterogeneity between >50 demographic, clinical, and perioperative variables. Using a caliper distance of 0.2 and nearest-neighbor matching technique, we identified two identical matches from nFA for each patient in FA (1:2 matching). Our outcomes of interest were 30-day rates of postoperative morbidity and mortality.

Results: 113,504 patients met our initial inclusion criteria; 1.6% (1,809) of patients underwent concurrent FA. After matching we were left with 5,421 patients; 1,809 (33.3%) patients in FA and 3,612 (66.6%) patients in the nFA groups. 21.7% (1,174) patients underwent bilateral mastectomies. 66.3% (3,592) had a simple-total mastectomy, 14.1% (765) had modified-radical mastectomies and 5.9% (321) had skin sparing mastectomies. 47.1% (2,554) of reconstructions were expander-based, 14.4% (779) were implant-based, and 43.3% (2341) were autologous reconstructions (latissimus dorsi, transverse rectus abdominus flaps and free flaps). Before matching, the FA group on baseline had a higher proportion of co-morbidities and higher proportion of autologous reconstructions. Post-match diagnostics demonstrated successful matching on all baseline variables. Overall, 30-day postoperative wound complication rates were similar between both cohorts (FA: 4.8% [87], nFA: 4.8% [174], \( P = 0.900 \)). Rates of superficial surgical site infections (FA: 2.4% [88], nFA: 2.0% [37], \( P = 0.366 \)), deep surgical site infections (FA: 1.1% [19], nFA: 0.9% [33], \( P = 0.626 \)), organ space infections (FA: 1.0% [18], nFA: 0.8% [29], \( P = 0.472 \)) and wound/flap dehiscence (FA: 1.4% [25], nFA: 1.0% [36], \( P = 0.205 \)) were also similar between both groups. Other 30-day postoperative complication rates (all \( P > 0.05 \)) and reoperation rates (FA: 8.9% [161], nFA: 8.5%, \( P = 0.645 \)) remained similar between both groups. There was no postoperative mortality in either group.

Conclusion: This national appraisal of surgical outcomes demonstrates that fluorescent angiography did not decrease postoperative morbidity following reconstructive breast surgery. Well-powered, prospective, randomized trials may help elucidate the effect of such technology within specific surgical cohorts or high-risk groups.

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Intravenous Tranexamic Acid Safely Reduces Hematoma Without Thromboembolic Events In Implant-Based Breast Reconstruction

Jason M. Weissler, Joseph Banuelos, MD, Steven Jacobson, MD, Oscar J. Manrique, MD, Minh-Doan T. Nguyen, MD, Christin A. Harless, MD, Nho V. Tran, MD, Jorys Martinez-Jorge, MD

Mayo Clinic, Rochester, MN, USA.

Purpose: Antifibrinolytic medications, such as tranexamic acid (TXA) have recently garnered increased attention in plastic surgery. Despite its ability to mitigate intraoperative blood loss and need for blood transfusion, there remains a