Comparative Outcomes of Lower Trapezius Versus Latissimus Dorsi Tendon Transfer for Irreparable Posterosuperior Rotator Cuff Tears: A Systematic Review

Ross Clarke, Brian Scott Tao, Mohammad Salah Abdelaal, Neal Shah[1], Abhishek Suresh[1], Josef Karl Eichinger, Brian R Waterman, Joseph W Galvin, Xinning Li
[1]Orthopaedic Surgery

INTRODUCTION: Latissimus dorsi transfer (LDT) and lower trapezius transfer (LTT) for irreparable posterosuperior rotator cuff tears have been shown to have favorable outcomes. There has been no systematic comparison of clinical outcomes between the two techniques. We aimed to compare clinical outcome measures, complications, and rates of conversion to reverse shoulder arthroplasty (RSA) between LDT and LTT with a minimum of 1-year postoperative follow-up.

METHODS: We performed a systematic review using the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines, querying MEDLINE (PubMed) and EMBASE databases for studies reporting outcomes and complications following LDT and LTT with a minimum of 1-year follow-up. We assessed the methodological quality of each study using the MINORS score and extracted patient demographics, clinical, and patient-reported outcome data.

RESULTS: 2,587 patients with a weighted mean age of 60.13 years and a mean follow-up of 48.16 ± 23.40 months, were included. Sixty-nine studies with 1,935 shoulders treated with LDT and seventeen studies with 671 shoulders treated with LTT were analyzed. LDT group showed a greater improvement in the Constant (28.8 vs 23.6, p<0.01) and UCLA scores (14.7 vs 8.5, p=0.03) and lower VAS scores for pain (-4.5 vs -3.5, p=0.04). LTT group gained more active external rotation (21.8 versus 16.5, p=0.03) and had lower Hamada grade at the final follow-up (0.1 versus 0.6, p<0.1) compared to the LDT. Patient satisfaction, complication rates, and RSA conversion were similar between groups.

DISCUSSION AND CONCLUSION: Both LDT and LTT are viable options for irreparable posterosuperior rotator cuff tears. While LDT was associated with higher clinical scores and greater pain reduction, LTT provided superior restoration of external rotation and lower progression of cuff arthropathy. Given its favorable biomechanical alignment and potential for restoring ROM, LTT may be particularly favorable for younger, active, and high-demand patients. Our findings suggest a tailored, patient-specific approach when selecting the tendon transfer technique.