

Comparison of Wound Outcomes for Absorbable versus Non-absorbable Suture after Carpal Tunnel Release

Cameron Harmon¹, Jeffrey N Gross², Joshua M Adkinson², Brian Christie²

¹Indiana University School of Medicine; ²Indiana University School of Medicine, Department of Surgery, Division of Plastic Surgery

Background and Hypothesis:

Carpal tunnel release (CTR) is a common hand surgery procedure. Despite the large volume of CTRs performed worldwide (400,000-600,000 cases/year), there is no consensus as to the optimal suture material for incision closure. In this study, we sought to compare outcomes of absorbable and non-absorbable suture for skin closure after CTR. Our hypothesis was that there is no statistically or clinically significant difference in wound-related outcomes between the cohorts.

Project Methods:

All patients who underwent primary open carpal tunnel release (CTR) at a large, public county hospital in Indianapolis, IN were identified by CPT code (64721). All patients were treated by one of two fellowship-trained hand surgeons. The most recent 50 patients treated between September 2022 and May 2023 by each surgeon were identified. Surgeon "A" uses 4-0 vicryl rapide for closures (absorbable). Surgeon "B" uses 4-0 nylon for closures (non-absorbable). Adverse events (AE) were defined as infection, dehiscence, or suture granuloma observed at any follow-up appointment. This study was approved by the Institutional Review Board.

Results:

100 patients were identified - 4 patients were lost to follow-up and were excluded from the study. Of the remaining 96 patients, 46 received absorbable suture and 50 non-absorbable suture. Of the 46 patients who received absorbable suture, 8 experienced AE (17.4%). None of the 50 patients who received non-absorbable suture experienced an AE. There was a statistically significant difference in AE between the absorbable and non-absorbable suture cohorts ($p=0.002$). Patients with absorbable suture averaged 1.61 follow-up appointments, whereas those with non-absorbable suture averaged 2.32 ($p=.0008$).

Conclusion and Potential Impact:

In this study, absorbable suture resulted in more wound-related complications after CTR. However, patients with non-absorbable suture had more post-operative follow-up appointments. These findings should be considered when selecting suture material for skin closure after CTR.