
Design: Randomized clinical trial

Population/sample size/setting:
- 65 patients (56 women, 9 men, mean age 55) operated on for Eaton-Glickel grade 3 and 4 osteoarthritis of the carpometacarpal joint in the UK

Main outcome measures:
- All patients had dorsoradial incision and trapeziectomy, and all had exposure of the flexor carpi radialis (FCR) tendon
- Randomized to either trapeziectomy alone (T, n=32) or to trapeziectomy plus ligament reconstruction and tendon interposition (LRTI, n=33)
- All patients had 4 week immobilization in Bennett’s type cast, followed by mobilization by therapists for 4-6 weeks
- Range of motion for radial abduction increased between preoperative and 12 month follow-up measurements, but increased more in the T group (from 52° to 70°) than in the LRTI group (from 54° to 58°)
- First web space span increased about equally in both groups between preop and the 12 month follow-up
- Grip strength, key and tip pinch strength increased between preop and the 12 month follow-up; there were no differences between the two groups
- Similarly, pain VAS decreased equally in both groups between preop and 12 month follow-up, from 7.5 to less than 2.0
- Radiographically measured scaphometacarpal distance decreased in both groups between preop and the 12 month follow-up; both were about 12 mm preop, but 12 month distance was 5 mm in LRTI and 4 mm in T group
- At 3 months, there were 4 complications in the T group and 12 in the LRTI group
- The 4 complications in the T group were: 2 superficial infections, 1 radial nerve irritation, and 1 case of CRPS Type I which had resolved by 12 months
- The 12 complications in the LRTI group were: 1 superficial infection, 1 radial nerve irritation, 6 wound adherence of the volar wrist requiring massage and ultrasound by physical therapist, and 4 CRPS Type I
- At 12 months, all of the cases of volar wrist adherence in the LRTI group had resolved, and 3 of the 4 CRPS cases had resolved
- At 12 months, 64 of the 65 patients indicated that they would have the same surgery again; the exception was the LRTI patient with CRPS

Authors’ conclusions:
- There appears to be no benefit to suspension with an FCR sling after trapeziectomy
- Although there is a greater scaphometacarpal distance in the LRTI group than in the T group, this appears to make no difference in grip and pinch strength
- Although there are more complications in the LRTI than the T group, the numbers are too small to be significant
- T and LRTI are equally effective in relieving pain

Comments:
- Eligibility and exclusion criteria are not specified, making it unclear to which population the findings would apply
- A power analysis was reported to determine the sample size, but the effect size (the magnitude of the difference between groups) for this power analysis is not reported
- Presumably, the “single blind” in the title of the article refers to the assessment by the physiotherapists at follow-up
- Some of the data in Table 2 do not correspond to their graphic display in Figure 3; the palmar abduction in the T group at 12 months is reported as 54° in Table 2, but looks like 62° in Figure 3; while the palmar abduction of the LRTI group is 62° in Table 2, it looks like 55° in Figure 3
- The scaphometacarpal distance was measured preop and at the follow-up visits, and “the difference between the groups diminished with time;” however, the authors report p values rather than the differences in mm, and the actual differences in Figure 7 are difficult to quantify
- The range of scaphometacarpal distances is not reported; while the mean distance at 12 months was 4 mm in the T group, it would be helpful to be told if there were any cases of scaphometacarpal abutment
- While the differences in complication rate at 3 months involves numbers too small to be statistically significant, they can be combined with data from other studies to yield a statistically significant pooled difference

Assessment: Inadequate for evidence statement about LRTI vs. trapeziectomy (no information on inclusion/exclusion, presentation of data has conflicts between tables and figures, p values are treated as measures of effect)