

## Repeat Meniscus Repair: What Result Can We Expect?

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### Summary:

Repeat meniscal repair may be warranted in select cases, however, repair failure is a common complication.

### Abstract:

**BACKGROUND** Currently, there is little evidence to guide management of a recurrent tear after meniscal repair. The purpose of this study was to 1) report outcome for patients who underwent repeat meniscal repair, and 2) evaluate injury and surgery-related factors predictive of outcome. **METHODS** A search of the medical record at a single institution found 29 patients who received repeat meniscal repair between 1997 and 2012. Tears were characterized by zone and pattern. Red-red zone was defined as less than 3mm from the meniscosynovial junction, and red-white zone as between 3-5mm. Tear patterns were classified as simple (a single plane tear), bucket handle (a displaced fragment attached anteriorly and posteriorly), or complex (a multi-plane tear). Surgical technique was defined as all inside, inside-out, or hybrid technique. Failure was defined as continued pain, catching or locking, and/or subsequent meniscal procedure. Clinical and functional outcome was evaluated by International Knee Documentation Committee and Tegner subjective outcome scores. Tear zone, tear pattern, patient age, surgical technique, and combined ligamentous repair were evaluated as predictors of failure. **RESULTS** Twenty-nine patients, 22 (76%) males and 7 (24%) females, underwent repeat meniscal repair at an average age of 22.0 years (range, 14-38). Eleven (38%) lateral menisci and 18 (62%) medial menisci were repaired at mean 28 months (range, 2-82) after primary surgery for 8 (28%) simple, 7 (24%) bucket-handle, and 14 (48%) complex tear patterns. Nineteen tears (65%) occurred in the red-red zone, and 10 (35%) in the red-white zone. Combined ligamentous surgery occurred in 13 (44%) patients with 9 (31%) ACL reconstructions, 1 (3%) PCL reconstruction, 2 (7%) ACL reconstructions/MCL repairs and 1 (3%) ACL/PCL/MCL reconstruction/repair. Within 3 years of repeat surgery, 7 (24%) cases had documented re-rupture, and 5 (17%) patients underwent subsequent meniscectomy. At five-year follow-up, 9 (45%) patients met criteria for failure. For patients with an intact repair, mean Tegner and International Knee Documentation Committee scores were 6.4 (range, 3-8) and 82.8 (range, 67.8-96.6), respectively. Tear zone ( $p=0.71$ ), tear pattern ( $p=0.11$ ), surgical technique ( $p=0.17$ ), and combined ligamentous repair ( $p=0.96$ ) were not significant predictors of failure; however, patients with a successful repair were significantly older than patients that failed repeat meniscal repair ( $p=0.02$ ). **DISCUSSION** In this study, outcomes were modest with an overall failure rate of 45%. However, repeat meniscal repair should be considered in select cases. Younger patients may be at even higher risk for repair failure.