

## **Abstract**

**Background:** Transtibial pullout repair of medial meniscus posterior root tears (MMPRTs) is commonly used, and several techniques for it have been reported in previous studies. The current study hypothesized that pullout repairs using two simple stitches (TSS) would have similar postoperative outcomes as those using the modified Mason-Allen suture with FasT-Fix (F-MMA). This study aimed to investigate the clinical outcomes of these techniques, including meniscal healing status and osteoarthritic change.

**Methods:** Sixty-eight patients who underwent transtibial pullout repair were investigated. Patients were divided into two groups of 41 and 27 patients using F-MMA and TSS, respectively. The clinical outcomes were assessed preoperatively and at second-look arthroscopy using the Lysholm knee score, Knee Injury and Osteoarthritis Outcome Score, and visual analogue scale pain scores. The meniscal healing status, evaluated at second-look arthroscopy, was compared between the two groups. Cartilage damage was graded as per the classification of the International Cartilage Repair Society and compared at primary surgery and second-look arthroscopy.

**Results:** Both groups showed significant improvement in each clinical score. No significant difference was seen in clinical outcome scores and meniscal healing status between the two groups at second-look arthroscopy. Moreover, no significant progression of cartilage damage was observed in both groups. Fourteen cases in the F-MMA group developed a complication of suture bar failures postoperatively; however, the TSS group did not report any complications.

**Conclusions:** The TSS and F-MMA techniques showed favourable clinical outcomes and would be established and clinically useful techniques for the treatment of MMPRTs.

**Keywords:** medial meniscus posterior root tear, transtibial pullout repair, modified Mason-Allen suture, two simple stitches, clinical outcomes