

## "Basket Weave" Technique Of Mpfl Reconstruction. A Prospective Study In 62 Knees

Pranjal Sharad Kodkani, MS(Ortho), D(Ortho), MB, BS, INDIA

Bombay Hospital, Shushrusha Hospital, Hinduja healthcare surgical  
Mumbai, Maharashtra, INDIA

### Summary:

"Basket Weave" technique of MPFL reconstruction devised by the author has given encouraging results. It is anatomical and does not require bone tunnels or implants. It restores normal patellar stability and mobility. Combining it with other procedures for patellar instability does not compromise its results. It has a low failure rate. It is a safe, effective, reliable and reproducible technique.

### Abstract:

Background: MPFL reconstruction methods using bone tunnels and implant fixations are known to compromise results due to rigid fixations and non anatomical reconstructions. These methods are not advisable in the skeletally immature. Implant fixation and bone tunneling methods cannot reconstruct the medial quadriceps tendon femoral ligament (MQTFL) which has a soft tissue attachment to the quadriceps. The "Basket Weave" technique of MPFL reconstruction was devised by the author to overcome deficiencies of other techniques, to avoid bone tunnels and implants, provide an anatomical reconstruction and a physiometric construct with differential tensioning. A prospective study was performed to assess outcomes and complication rate.

Materials and Methods: 62 knees of lateral patellar dislocation were treated in the past 60 months by "Basket Weave" technique of MPFL reconstruction. Cases selected for this reconstruction were symptomatic for patello-femoral instability, had a 'dislocatable' patella under examination or were subluxating patellae not responding symptomatically to appropriate physiotherapy. Cases with habitual patellar dislocation, chronic irreducible patellar dislocation, patello-femoral arthrosis and those responding well to physiotherapy were excluded. 42 were female and 20 male knees. The mean age was 20.3 years (range 9-48 years). Mean followup was 24 months. Five knees had previously failed stabilization procedure of lateral release with medial retinacular plication. 35 cases had Dejours Type A or B and 12 had Type C trochlear dysplasia. 1 had excess femoral ante version of 35 degrees. Arthroscopy was performed to assess associated injuries and presence of loose bodies. 8 knees required loose body removal. 6 knees underwent lateral retinacular release. 5 knees had associated tibial tuberosity medialization. 1 knee had an associated anterior cruciate ligament reconstruction. 1 knee with abnormal increased femoral ante version underwent an associated distal femoral derotation osteotomy. An anatomical MPFL reconstruction with MQTFL reconstruction was performed using hamstring autograft. A "Y" graft construct was created with differential tensioning. The proximal limb fixed in 30° knee flexion and the distal limb in 90°. Intraoperative fluoroscopy was not required. Only soft tissue fixation was performed on the femoral and patellar side with this newly devised reconstruction technique and a novel "Pretzel stitch" suturing technique using absorbable sutures. A rapid postoperative rehabilitation protocol was implemented with monthly follow-ups until normalcy and 6 monthly thereafter.

Results: All knees achieved full range of motion with normal medio-lateral patello-femoral stability. There was no recurrence of dislocation or subjective instability. No intraoperative complications or major surgery related postoperative complications. 1 patella fracture at 8 months postoperative, was due to a fall from stairs and developed terminal restriction of flexion following fracture fixation. Those in sports could return to their preoperative level of sporting activities (Tegner 1-9). Cases with osteochondral fractures had occasional pain immediate postoperatively which subsided in 1 year. Mean Kujala score improved from 65.4 to 99.6 with KOOS score near normal in all.

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Conclusion: This novel method of MPFL reconstruction gives excellent results. It avoids bone tunnelling, implants and related complications. It is a safe, effective, reliable and reproducible technique of MPFL reconstruction.