

High Tibial Valgus Osteotomy and Concomitant Anterior Cruciate Ligament Reconstruction. Which is the most appropriate surgical technique?

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Introduction: The aim of this study is to evaluate advantages of close vs. open HTO of a group of patients who underwent a one-stage combined operation for chronic ACL rupture and early medial compartment arthritis.

Material and Methods: We retrospective evaluated two series of patients operated on for anterior cruciate ligament (ACL) reconstruction combined with high tibial valgus osteotomy (HTO) for chronic anterior knee instability associated with medial tibio femoral osteoarthritis. Close HTO using rigid plate fixation and ACL reconstruction with bone patellar tendon bone graft was performed in Group A (7 patients). An open HTO using Puddu plate and ACL reconstruction with hamstring tendon graft was performed in Group B (9 patients). The mean age in Group A was 41 years old with an average varus of 8 degrees. Mean age in Group B was 42 years old and with 4 degrees of varus. Lysholm Score, HSS and Radiographs were performed.

Results: Group A obtained a mean Lysholm score of 94, mean HSS of 91. Group B showed a mean Lysholm score of 83, mean HSS of 87. The mean follow-up was 5 years in both groups. In all cases osteotomies consolidated.

Discussion: Technically we found that open HTO with hamstrings had several advantages such as lower risk of peroneal nerve injury, use of one incision, no problems as regards graft length, possibility of fixing the graft in the proximal tibia, maintenance of tibial slope and preservation of bone stock. The Open HTO need of osseous graft, may produce patella baja and the risk of nonunion is higher. This technique is indicated for relaxed medial collateral ligament. As regards the Close HTO there may be possibilities of a peroneal nerve injury, it may decrease the tibial slope, patellar ascent, loss of bone, the need to disrupt either the fibula or proximal tibio-fibular joint and may generate instability in the posterolateral corner and the screws could compromise the tunnels path. The advantages are provision of bone to bone contact with excellent union rates and the potential for full early weight-bearing.

Conclusion: In spite of these issues, both procedures relieved pain and restored knee stability and the choice will depend on each particular case.

The Orthopaedic Journal of Sports Medicine, 2(12)(suppl 4)

DOI: 10.1177/2325967114S00236

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