

Podium Presentation

ABSTRACT

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PRELIMINARY EXPERIENCE WITH THE MD3T, A NOVEL TIBIAL TUBERCLE TRANSFER

Background: The Multi-Directional Tibial Tubercle Transfer (MD3T) technique is unique because it allows a tibial tubercle transfer anteriorly, medially and distally together or independently. It also allows proximal and lateral transfers when indicated. In addition to allowing the degree of medialization to be independent of anteriorization, it is hoped that the more secure fixation and smaller arc of tibial cut in the axial plane will reduce or eliminate the risk of postoperative fracture and result in easier recovery. Due to my participation in the final testing and development stage of the system, I had the opportunity to be the first to use the new technique clinically.

Purpose: To review early experience with this system and determine if continued use is warranted.

Study Design: Case Series

Methods: Five cases were reviewed, 4 females and 1 male, mean age was 44.6 yrs., range 35–52. Follow-up ranged from 38 to 5 months, averaging 21 months. Four cases had anteromedial transfers due to chronic subluxation of the patella with secondary patellar chondrosis. One case had anterior-only transfer (ala Maquet) because of post-traumatic patellofemoral chondrosis. All cases were rehabilitated in a knee brace locked in extension for six weeks with immediate weight bearing as tolerated and with brace removal for ROM exercises. Crutches were discontinued at the patient's discretion, typically between the first and second week. Quad setting exercises were begun at the first week and straight leg raises between the third and fourth weeks. More aggressive quadriceps strengthening started when there was radiographic progress toward union. Unrestricted activity was achieved typically between four and six months after surgery and was governed by radiographic progress, symptoms, and physical examination.

Results: The four anteromedial transfers had medializations of 10, 9, 8, & 10 mm, and anteriorizations of 8, 8, 8, & 7 mm. The one anterior-only transfer was 8 mm. All cases had initial secure fixation, were performed as out-patient procedures, healed their osteotomies, and were pleased with their outcomes. There were no complications.

Conclusions: Based on this experience, this less invasive technique achieved the goals of more flexible placement of the tibial tubercle along with an early return to full weight bearing. These preliminary findings support continued use of the technique for a larger and longer-termed study.