Meniscal repair and transplantation: indications, techniques, rehabilitation, and clinical outcome


Abstract: The purpose of this paper is to provide current knowledge regarding the indications, operative techniques, rehabilitation programs, and clinical outcomes of meniscus repair and transplantation procedures. Meniscus tears that occur in the periphery may be repaired using a variety of operative procedures with high success rates. Complex multiplanar tears that extend into the central one-third avascular zone can also be successfully repaired using a meticulous vertically divergent suture technique. The outcome of these repairs justifies preservation of meniscal tissue, especially in younger athletic individuals. Meniscal transplantation is a valid treatment option for patients who have undergone meniscectomy and have related tibiofemoral joint pain, or in whom articular cartilage deterioration in the meniscectomized compartment is present. Rehabilitation after these operations includes knee motion and quadriceps-strengthening exercises initiated the first day postoperatively. The initial goal is to prevent excessive weight bearing and joint compressive forces that could disrupt the healing meniscus repair or transplant. The protocol contains modifications according to the type of meniscal tear, if a concomitant procedure is done (such as a ligament reconstruction) or if noteworthy articular cartilage deterioration is present. Patients who have repairs of peripheral meniscus tears are generally progressed more rapidly than those who have repairs of tears extending in the central one-third region or those who undergo meniscal transplantation. The safety and effectiveness of the rehabilitation program has been demonstrated in several clinical studies. We recommend preservation of meniscal tissue, regardless of age, in active patients whenever possible.