



Shelbourne Knee Center
at Methodist Hospital
Specialized Care for Knee Injuries

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Early Histologic Appearance of Human Patellar Tendon Autografts used for Anterior Cruciate Ligament Reconstruction. Rougraff BT, Shelbourne KD: *Knee Surg Sports Traumatol Arthrosc*7:9-14, 1999

Nine patients underwent second-look arthroscopy and biopsy between 3 and 8 weeks after anterior cruciate ligament (ACL) reconstruction using autogenous patellar tendon. All nine biopsies were taken from the central region of the graft. Every biopsy revealed viable cells in two different patterns. As early as 3 weeks after ACL reconstruction, there were areas that were very similar to patellar tendon control specimens with low nuclear counts, mature collagen, and elongated metabolically quiescent nuclear morphology. Other areas were hypercellular and associated intimately with neovascular invasion. Vascularity of the grafts was present as early as 3 weeks after reconstruction and increased in prevalence over the next 5 weeks. All specimens had areas of acellularity and degeneration. From these data, the authors conclude that the transplantation of nonvascularized, autogenous patellar tendon is characterized by early viability of the graft both from original fibroblasts and by new cells that arise from neovascularity that is present as early as 3 weeks after ACL reconstruction.