



Shelbourne Knee Center
at Methodist Hospital
Specialized Care for Knee Injuries

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Accelerated Rehabilitation after Anterior Cruciate Ligament Reconstruction. K. Donald Shelbourne, MD and Paul Nitz, MD: *Am J Sports Med* 18: 292-299, 1990

To overcome many of the complications after ACL reconstruction (prolonged knee stiffness, limitation of complete extension, delay in strength recovery, anterior knee pain), yet still maintain knee stability, we developed a rehabilitation protocol that emphasizes full knee extension on the first postoperative day and immediate weight bearing according to the patient's tolerance. Of 800 patients who underwent intraarticular ACL patellar tendon-bone graft reconstruction, performed by the same surgeon, the last 450 patients have followed the accelerated rehabilitation schedule as outlined in the protocol. A longer than 2 year follow-up is recorded for 73 of the patients in the accelerated rehabilitation group. On the 1st postoperative day, we encouraged these patients to walk with full weight bearing and full knee extension. By the 2nd postoperative week, the patients with a 100° range of motion participated in a guided exercise and strengthening program. By the 4th week, patients were permitted unlimited activities of daily living and were allowed to return to light sports activities as early as the 8th week if the Cybex strength scores of the involved extremity exceeded 70% of the scores of the noninvolved extremity and the patient had completed the sport-specific functional/agility program. The patient database was compiled from frequent clinical examination, periodic knee questionnaires, and objective information, such as range of motion measurements, KT-1000 values, and Cybex strength scores. A series of graft biopsies obtained at various times have revealed no adverse histologic reaction. The evidence indicates that in this population, the accelerated rehabilitation program has been more effective than our initial program in reducing limitations of motion (particularly knee extension) and loss of strength while maintaining stability and preventing anterior knee pain.