



Shelbourne Knee Center
at Methodist Hospital
Specialized Care for Knee Injuries

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Arthrofibrosis in Acute Anterior Cruciate Ligament Reconstruction. The Effect of Timing of Reconstruction and Rehabilitation. Shelbourne KD, Wilckens JH, Mollabashy A, DeCarlo M: *Am J Sports Med* 19:332-336, 1991

Abstract: Arthrofibrosis is a potential complication of acute ACL reconstruction. Arthrofibrosis prevents the patient from regaining full range of motion, particularly the terminal 5° of full extension, postoperatively. We did a retrospective study of 169 acute ACL reconstructions in a population of young athletes (average age, 22 years). We sought to determine the optimal time to perform acute ACL reconstruction with respect to arthrofibrosis and the effects of an accelerated versus conventional rehabilitation program. The short-term results were evaluated by range of motion measurements and 13 week Cybex scores. Patients whose ligaments were reconstructed within the 1st week after injury (Group I) had a statistically significant ($P < 0.05$) increased incidence of arthrofibrosis (limited extension, scar tissue) over patients who had ACL reconstruction delayed 21 days or more (Group III). At 13 weeks after the reconstruction procedure, Group III patients scored an average of 70% (compared to 51% for Group I, $P < 0.05$) on the Cybex evaluation. They also showed a trend toward more flexion of the knee as well as near full extension. Patients who had an ACL reconstruction between 8 and 21 days after injury (Group II) had a similar incidence of arthrofibrosis as Group I when they followed a conventional rehabilitation program postoperatively. However, only a small number of cases (approximately 4%) of Group II patients who followed an accelerated postoperative rehabilitation program had any arthrofibrosis--an observation we also made in the Group III patients. The evidence suggests that delaying reconstructive surgery at least 3 weeks from time of acute ACL injury will result in earlier return of strength.