

A banner for the Shelbourne Knee Center at Methodist Hospital. The background is a blue gradient with a photo of a soccer player on the left. The text is in white and blue. The center name is in a large, blue, serif font. Below it, 'at Methodist Hospital' and 'Specialized Care for Knee Injuries' are in a smaller, white, sans-serif font. On the right, the names of the doctors and 'Physical Therapy' are listed in white, sans-serif font. At the bottom, the address and phone numbers are in a small, white, sans-serif font.

*Shelbourne Knee Center*  
at Methodist Hospital  
Specialized Care for Knee Injuries

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**What I have learned about the ACL : utilizing a progressive rehabilitation scheme to achieve total knee symmetry after anterior cruciate ligament reconstruction. Shelbourne KD, Klotz C. J Orthop Sci 2006 May;11(3):318-25.**

#### **Abstract**

Anterior cruciate ligament surgery and rehabilitation have changed drastically in the past 30 years. The patellar tendon autograft fixed with buttons provides tight bone-to-bone placement of the graft and quickly bony healing, which allows for accelerated rehabilitation to obtain full range of motion and strength. While surgical stability is easily reproducible, long term patient satisfaction is harder to guarantee. Full knee range of motion should be compared to the contralateral normal knee, to include full hyperextension. We followed the progress of all patients to gauge the utility of our rehabilitation program. Factors affecting the long-term results after surgery, in order of importance, were achieving normal knee range of motion (within 2° extension and 5° of flexion compared with the normal knee), partial or total medial meniscectomy, partial or total lateral meniscectomy, and articular cartilage damage were related to lower subjective scores. Rehabilitation after ACL reconstruction must first strive to achieve full symmetrical knee range of motion before aggressive strengthening can begin. Our current perioperative rehabilitation starts at the time of injury and preoperatively includes aggressive swelling reduction, hyperextension exercises, gait training, and mental preparation. Goals after surgery are to control swelling while regaining full knee range of motion. After quadriceps strengthening goals are reached, patients can shift to sport-specific exercises. When using a graft from the contralateral knee, the conflicting goals of strengthening the donor site and achieving full knee range of motion are divided between the knees. Thus, normal range of motion and strength can be achieved more easily and more quickly than using an ipsilateral graft. Regardless of the graft source, a systematic rehabilitation program that emphasizes the return to symmetrical knee motion to include hyperextension is necessary to achieve the optimum result.