



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

1815 N Capitol Ave, Ste 600 Indianapolis, IN 1.888.349.5633 1.317.924.8636

K Donald Shelbourne MD  
Scott E Urch MD  
Physical Therapy

**Graft Selection, Placement, Fixation, and Tensioning for Anterior Cruciate Ligament Reconstruction. Shelbourne KD, Rubinstein RA: *Operative Techniques in Sports Medicine* 1:10-15, 1993**

The ideal graft for replacement of the anterior cruciate ligament (ACL) is one that retains at least an equivalent level of normal ACL strength, allows for secure fixation, enables unrestricted rehabilitation, and has no graft harvest morbidity. The choices for ACL grafts are both biologic and synthetic. Among the biologic choices are autografts and allografts. One must decide on the type of biologic tissue, whether patellar tendon, hamstring tendon, iliotibial band, or Achilles tendon. In addition to selecting a graft, the ACL substitute must be correctly placed with secure fixation and under appropriate tension. Correct placement of a graft requires an accurate understanding of the normal anatomic attachment sites of the ACL, both on the tibia and the femur. Ideal fixation will allow secure initial fixation and sufficient stability until the native bone and/or tissue heals. This fixation must also be strong enough to allow the recommended postoperative rehabilitation. The tension of the graft must be sufficient to achieve stability but not so excessive that it captures the joint ACL reconstruction procedure. The goals of the surgery -restoring normal knee stability and allowing expedient recovery -depend on the surgeon knowing the ACL graft choices, the proper placement within the joint, the ideal fixation, and the proper tension.