

Allograft/Autograft BPTB Anterior Cruciate Ligament Reconstruction (ACLR) Equal Outcomes in All Ages, No Anterior Knee Pain: Average 7 Year Follow-Up

The anterior cruciate ligament (ACL) is one of two ligaments which control the front to back (anteroposterior or AP) motion and stability of the knee. The primary function of the ACL is to prevent the tibia (shin bone) from sliding out in front of the femur (thigh bone) during activity. Most ACL tears occur as a result of twisting, hyperextending, or pivoting of the knee. Common symptoms of an ACL injury include a loud pop or snap during the injury, sudden and severe pain, swelling within the first five to six hours after injury and the inability to put weight on the knee without it collapsing or being extremely painful. During ACL reconstruction (ACLR), the torn ACL is replaced with a donor graft (allograft) or a graft derived from the patient him- or herself (autograft). The two most common anatomic sources of grafts are the middle portion of the patellar tendon below the kneecap (called a bone-patellar tendon-bone [BPTB] graft) and the hamstring tendons (called a hamstring graft).

This study was designed to compare clinical and functional outcomes between patients who underwent allograft and autograft BPTB ACLR. The study group consisted of 153 patients (ages 15-58) on whom Dr. Plancher performed either an allograft or autograft BPTB ACL repair. All patients followed the same postoperative rehabilitation program including bracing of the knee and return to pivoting sports no sooner than 6 months. Patients also underwent pre- and postoperative clinical evaluations comprised of knee range of motion and stability testing, radiographic evaluations including x-rays, MRIs and CT scans, and functional evaluations including self-assessment questionnaires. At an average follow-up of 7 years, no significant differences in functional scores or knee stability were found between groups, and activities associated with knee pain were not difficult for either group. There were 2 autograft failures after 5 years due to unknown reasons and 4 allograft failures after an average of 4 years due to traumatic reinjuries. All but one of these patients underwent successful revision allograft ACLR by Dr. Plancher. No statistical difference in re-rupture rate was found between groups. We concluded that both allograft and autograft BPTB ACLR restore knee stability and successfully return patients to high level sports such as basketball, football, marathon running, soccer, skiing and tennis.