

THE RYU HURVITZ ORTHOPAEDIC CLINIC

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ANTERIOR CRUCIATE LIGAMENT INJURIES & RECONSTRUCTION

The anterior cruciate or “sports” ligament is responsible for providing knee stability in side-to-side or pivoting sports such as skiing, basketball, football, soccer, volleyball and racquetball, to name but a few. When the ligament is torn, it is incapable of healing itself and needs to be reconstructed, if knee stability is to be restored. Additionally with anterior cruciate ligament injuries, torn cartilage and bone injuries often occur and are treated as well.

The strongest tissues available for reconstructing a new anterior cruciate ligament are medial hamstrings or cadaver tissue. Our success rate with this operation performed arthroscopically has been greater than 95%. Ask your doctor about the advantages and disadvantages of hamstring versus cadaver (allograft) ACL reconstruction.

When a torn ligament has to be reconstructed, the postoperative rehabilitation is long and arduous, but the end result of a stable knee makes it all worthwhile. The following paragraphs outline the operation and postoperative philosophy.

The postoperative management of an anterior cruciate ligament reconstruction continues to change as the procedure itself changes and we benefit from further advances in arthroscopic technology. Anterior cruciate ligament reconstructions can be performed all arthroscopically. Because the procedure is performed in this manner, the synovium (joint lining) is not violated and the important quadriceps muscle (thigh muscle) is not detached and then re-attached as in the older procedures. The fixation of the graft has also been improved such that immediate motion and weight bearing can be initiated. Because of these advances, the postoperative discomfort is markedly lessened and the rehabilitations accelerated, thereby increasing the chances of a highly satisfying outcome. It is, however, important to understand the phases of rehabilitation during the recovery. It is important that you understand all instructions and precautions and can cooperate to enhance an optimal result.

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The phases of rehabilitation are described below:

Phase 1: (week 1-2) A removable knee immobilizer in full extension is worn and 1 or 2 crutches are used for support. Usually full weight bearing is permitted immediately. Early range of motion is started and extension exercises are emphasized to prevent loss of motion.

Phase 2: (weeks 2-4) During this period, crutches are discontinued and a custom sports brace is worn. Strengthening exercises and home therapy are continued and at the conclusion of this phase, the initial period of healing is completed. The ACL graft fixation is the weak link during this phase and is susceptible to displacement, if subjected to abnormal forces.

Phase 3: (weeks 6-16) During this phase, the custom sports brace continues to be worn. Range of motion and closed chain muscle strengthening exercises are maintained. It is helpful for a physical therapist to monitor progress and to not allow undue stress of the new healing ligament. The graft begins to develop a new blood supply between 8-12 weeks following surgery and this new blood supply allows gradual gains in strength. Elliptical, bicycling and walking on the treadmill are usually started at 3-4 weeks; followed by swimming and running at 4 months. At 4-5 months, the graft is approximately 70% of its ultimate strength.

Phase 4: (months 4-10) This is a period of continued protection during ACL graft maturation. Walking activities do not require brace protection, however all running and jumping activities require brace support. High risk activities such as racquetball, volleyball, basketball, soccer or football are restricted until the patient has reached the 6-7 month postoperative period. By 8-9 months, most patients have returned to full activity and the ACL grafts have satisfactorily re-vascularized and matured.

Phase 5: (months 10+) From 10 months on, all graft materials are mature. At this point, bracing for sports is optional. It is our recommendation that high risk sports should be performed with brace protection until coordination/strength/flexibility and confidence are restored.

A word of optimism: the success rate following anterior cruciate ligament surgery is greater than 90%. The success of the surgery depends not only on the surgical technique but also upon conscientious attention to detail in the postoperative rehabilitation protocol. The final good result comes after a long dedicated effort on the part of the patient but is fully worth it. Proper flexibility, strength, agility and confidence must accompany any return to full sporting activities. Even with all these accomplished, bracing is occasionally required.

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EXERCISES

During the initial phase of healing after an arthroscopic anterior cruciate ligament reconstruction, physical therapy is needed. Therapy commences two or three days after surgery on an outpatient basis. A special protocol is individualized for each patient.

COMPLICATIONS

Following arthroscopic anterior cruciate ligament reconstruction surgery, complications can occur. If you develop a persistent fever, increasing rather than decreasing pain, severe calf pain, marked lower extremity swelling, or redness around the wound, please contact the office immediately at (805)963-2729