



Anterior Cruciate Ligament Reconstruction
Post-operative Rehabilitation

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Following surgical reconstruction of the anterior cruciate ligament, it is important to follow certain rehabilitative and postoperative instructions to facilitate recovery. Emphasis is placed on early physical therapy and compliance with home exercises.

You will begin rehabilitation the day following surgery, performing the exercises that you were instructed in pre-operatively (outlined below). Typically you will work on early rehab on your own for the first two weeks following instructions provided at your office rechecks. Then you will be referred to outpatient physical therapy. Although you will work at a facility of your choice, your rehab will follow this protocol developed at The Kansas Center for Athletic Medicine. The surgical procedure used by Dr. Wertzberger has allowed the patient to do more of their rehabilitation on their own. We highly recommend you work under the direction of a physical therapist, but the frequency of rehab sessions will depend upon: patient progress, availability of suitable equipment, proximity of rehab provider and your schedule.

The following protocol is a guideline. Exercises and techniques are outlined but rehab is not limited to those listed. We recognize that there is variability in patient's rehab demands, patient response to exercises, availability of equipment, as well as exercises and techniques not listed, with which therapists have had success. **However keep in mind and adhere to the goals of each phase of rehab and emphasized restrictions.**

Should you have any questions, please do not hesitate to contact Randy at 843-9125 or by e-mail at kcam@sunflower.com

Post-op: 0-2 weeks

Emphasis: *Range of motion, especially extension (straightening the knee)*
Quad re-ed
Functional leg control

Immobilizer: The immobilizer is to be worn at all times, except when instructed to remove for exercises. During the second week, you may be allowed out of the immobilizer except when ambulating.

Crutches: Typically you will use crutches the first 1-2 weeks for balance and comfort. You will be allowed to bear weight as tolerated. After the first week, you may be allowed to go without crutches, **but the immobilizer must be worn.**

Exercise: You will begin rehabilitation the day after surgery with the following exercises:

- Extension stretch with immobilizer open and rolled towel under heel
- Quad sets, place rolled towel under knee, tighten quads, pushing knee down into towel
- Heel slides, with the immobilizer open, slide heel to buttocks into pain tolerable range, then slide to straight
- Ankle pumps

Restrictions—NO straight leg raises with immobilizer off

ONE WEEK POST-OP:

Return to office for removal of arthroscopic portal sutures

Immobilizer: Continue to wear the immobilizer when ambulating, but may be off at all other times Unless you have had a meniscal repair then continue to wear the immobilizer at all times.

Exercises: Your motion will be checked and you may be instructed to begin wall slides to help bend your knee and prone hangs to help straighten your knee. You will be instructed in the following exercises to help prepare you for walking without the immobilizer in another week.

- Standing knee extension with ball behind knee while standing
- Double leg calf raises

Crutches: If you have not done so already you may begin to wean off the crutches. If you have had a meniscal repair you will continue to use the crutches with the weight bearing restrictions you have been instructed to follow.

TWO WEEKS POST-OP:

- Return to the office for removal of long suture(s)
- Placed into functional brace (unless meniscal repair done)
- Start outpatient rehabilitation

Early Rehab: 2-6 weeks

Emphasis: *Restoration of FULL ROM*
Base strengthening
Early balance training

Restrictions—No straight leg raising with weights
No seated open chain knee extensions
No jogging, swimming or sport activities

Rehab: May include but not limited to the following: (continue ROM exercises)
Rehab **may** be done without functional brace on.

- Stationary cycling
- Bilateral calf raises
- Gentle hamstring stretching
- Standing hamstring curls (no greater than 1lb per post-op week)
- Closed chain quad and hamstring strengthening
- Early balance and proprioception training

Aggressive Strengthening: 6-12 weeks

Emphasis: *Advanced aggressive strengthening, more single leg strengthening
High-level balance training
Early agility training
Prepare for return to running*

Restrictions—No open chain knee extensions
No running, jumping, pivoting, accelerating or decelerating activities

Rehab:

- Discontinue low level exercises and progress to more single leg strengthening
- Monitor patella-femoral joint and implement PTF considerations if indicated
- Advanced closed chain rehab
- Advanced hamstring strengthening
- Advanced balance training
- Moderate level agility skills

Early Functional Rehab: 12-16 weeks

Emphasis: *Aggressive strengthening
Advanced balance training
Advanced agility training
Improved aerobic and anaerobic conditioning*

Restrictions—No open chain knee extensions
***No running
No jumping until safely completes landing training***

Rehab:

- Continue aggressive strengthening specific to patient's activity demands
- Advanced balance training
- Advanced agility skills

Advanced Functional Rehab: 16-20 weeks

Emphasis: *Return to running program
Specific aggressive strengthening with fewer exercises
Specific high-level balance rehab
Advanced acceleration and deceleration rehab
Prepare for return to sport or work specific demands*

Restrictions—No open chain knee extensions
All functional activities with brace on

Rehab:

- Continue aggressive strengthening activity specific
- High level balance drills
- High level agility drills
- Advance to sprints

At 16 weeks begin landing training: **with brace on**

- Butt drops
- Jump downs
- Jump rope
- Progress to bilateral jumping drills progress to single leg jumps
- Accelerating and decelerating drills

Prepare for Return to Sports: 20-24 weeks

Emphasis: *Prepare for return to sport*

Restrictions—Patient must undergo final functional test prior to release to sports
Patient to wear functional brace for return
No open chain knee extensions until 8 months post-op

Rehab: Continue sport specific strengthening, balance and agilities.
May participate in sport specific drills, **no contact**
May be allowed to return to sports performance program, or team off-season strength and conditioning program (after passing functional test)

Return to Sports: 24+ weeks

- After patient has passed final functional test he/she may return to athletic participation. They may return to a sports performance program, their teams off season strength and conditioning program or after a structured and outlined plan for return, directly to their sport if in-season.
- Patient is to continue on a maintenance exercise program set up by physical therapist
- It is recommended that the patient continue to wear their functional brace for 12 months after surgery. After the first anniversary it is up to the patient as to whether or not they want to continue to wear the brace and for which activities.
- Patient to return to Doctor one year post-op for follow-up evaluation

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