Inland Orthopaedic Surgery & Sports Medicine Clinic

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ACL RECONSTRUCTION WITH PATELLAR TENDON AUTOGRAFT WITHOUT MENISCAL REPAIR POST-OP INSTRUCTIONS AND REHAB PROTOCOL

This protocol has been developed for the patient following Anterior Cruciate Ligament (ACL) reconstruction. This protocol may vary in length, aggressiveness and return to sports/activities depending on factors such as: concomitant procedures or additional injuries seen at the time of surgery, type of ACL graft used, primary vs revision surgery, range of motion/swelling status, pre-operative function, rehabilitation goals and expectations.

Physical therapy should begin as soon as is reasonably possible. Generally, your first post-op visit with the physical therapist should occur within a week after surgery. Your rehabilitation will be a supervised program by a physical therapist and a home program as directed by your therapist.

Primary goals of the procedure and rehabilitation are: 1) Control joint pain and swelling 2) Regain normal knee range of motion and strength 3) Regain normal gait pattern and neuromuscular stability for ambulation 4) Regain normal proprioception, balance, and coordination for daily activities 5) Achieve the level of pre-injury function based on the orthopaedic and patient goals.

The goal of this rehabilitation plan is to facilitate return to the pre-injury level of function. Return to activity and sports depend upon multiple factors. These factors are based on findings at the time of surgery as well the functional status of the knee. Some factors, such as time and graft incorporation are factors outside of our control. Return to sports and cutting activities is allowed after the patient achieves adequate flexibility, strength and endurance of the knee that is equal to at least approximately 90% of the other side. Generally this occurs around 9 months from the time of the operation.

I. POST-OPERATIVE INSTRUCTIONS:

a. **Take 1 tablet (325 mg) of aspirin per day**, starting the day after surgery and continuing **for 3 weeks**. This is done to decrease the risk of blood clots.

b. Dressing may be removed 3 days after surgery. Try to keep the wound as dry as possible until follow-up.

c. It is ok to shower after surgery, but keep the dressings and incision wrapped with saran wrap or something similar. When in the shower, do not scrub or soak the incisions. Just let soap/water run over the knee and pat dry. Do not submerge incisions in bath or pool until fully healed (4-5 weeks).

d. If you had a **nerve block at the time of surgery, it usually wears off 12-24 hrs post-operatively**. It is normal to have some numbness in the leg the first few days after surgery as a result. **The first night after surgery take pain medication before going to bed as the nerve block will often wear off during the night.**

e. Take the prescribed pain medications as directed. You can supplement your pain control with ice, elevation of the affected extremity and over-the-counter ibuprofen if needed, making sure to follow the dosage as recommended on the bottle. Use ice max 20 min/hour. Place towel between skin and ice to protect skin.

f. Decrease the frequency of your pain medicine as your symptoms allow. Generally patients are able to be off of pain medicine around 1-2 weeks post-op.

g. After surgery you may be weight bearing on the operative extremity as tolerated. Use the crutches as needed. Once your pain allows and your balance is adequate you may wean off the crutches.

h. After surgery, the first few days are generally spent recovering and resting. When resting, work on calf pumps (moving your ankle up and down) several times per hour. This helps reduce swelling in the leg and decrease the chance of blood clots. As your symptoms allow begin walking (using crutches as needed).

i. If you were placed into a brace, keep the brace locked in full extension for ambulation for 2 weeks. When sitting down, you may unlock the brace to bend the knee as tolerated and begin working on range of motion. You may take an occasional break from wearing the brace if you are at home and resting. You may remove the brace for sleeping after 2 weeks.

j. Other exercises to work on 3-4 times per day, before seeing therapist include calf pumps, straight leg raises, quad sets (contracting your thigh and holding for 10 seconds) and bending and straightening the knee.

k. Work on achieving full extension of the knee. The most important aspect of your rehab the first two weeks is getting the knee all the way straight. Range of motion goals for the first two weeks is 0-90 degrees.

l. Return to driving. There is no conclusive data to guide the exact time when it is safe to return to driving. You cannot drive while still on narcotic pain medications. In general, there should be adequate range of motion of the knee, minimal pain/swelling, and enough strength in the leg to allow you to quickly brake if needed.

m. **DO NOT PLACE PILLOWS/BLANKETS UNDERNEATH THE KNEE AFTER SURGERY.** This can cause a flexion contracture of the knee after surgery, making full extension of the knee difficult. It is ok to place pillows/blankets under the ankle for elevation.

II. **<u>Rehabilitation Protocol 0-6 Weeks Post-Op</u>**

a. Range of motion goal: 0-90 by two weeks post-operatively. **Emphasize full extension of the knee**
   - i. Heel slides
   - ii. **No restrictions on active flexion.**
   - iii. **Avoid repetitive active terminal extension (0-30^0). Focus on passive terminal extension for the first 4 weeks.**

b. **Weight bearing as tolerated**

c. Prone hangs

d. Quadriceps “re-education.” Isometric Quadriceps strengthening. Straight leg raises/quad sets

e. Hip/Core progressive resistive exercises

f. Patellar mobilization emphasize superior glides

g. Mini squats (0-45 degrees)

h. Balance training: weight shifts (side-side and forward-backwards)

i. Gastroc-soleus stretch, heel raises, toe raises

j. Modalities: cryotherapy, electrical stimulation, edema control, etc.

k. Ok to start stationary bicycle when achieve 110 degrees of flexion

III. **<u>6-12 Weeks Post-Op</u>**

a. Continue exercises from earlier protocol, use functional brace when active

b. No restrictions on range of motion
   - i. **Goal 0-130 degrees**
   - ii. Manual therapy as needed

c. Hip/Core/Hamstring/Quad progressive resistive exercises

d. Squat/step program
   - i. **(Limit squat activities to a maximum of 90 degrees knee flexion)**

e. Stationary bike

f. Continue closed chain quadriceps strengthening in full arc (leg press, wall slides)

g. Begin proprioception program

h. Quadriceps isotonics in 90-30 degree arc

i. Continue edema control/modalities/patellar mobilization

IV. 12-24 Weeks Post-Op

a. Continue all exercises from earlier protocol

b. Quadriceps isotonics- Ok for full arc for closed chain. Open chain: 90 – 30 degrees

c. Isokinetic quadriceps exercises

d. **May begin jogging program.** First treadmill, than progress to hard surfaces

  i. Do not start running sooner than 12 weeks

  ii. Can start jogging program if quad control/strength/swelling/motion allows

  iii. **No full speed running/cutting activities**

e. Progress proprioception

f. Plyometric program

g. Initiate functional program with sport specific drills

V. 24 Weeks Post-Op and Beyond

a. **Progress slowly through cutting/lateral movement exercises**

b. Continue advanced strengthening

  i. Full arc progressive resistance exercises-emphasize quads

c . Progress running and swimming programs

  i. Ok for in-line full speed running

d. Progress plyometrics program

e. Progress sport training program

f. Progress neuromuscular/functional program

g. Agility drills

h. KT-1000 test if available]

i. Isokinetic test at 60°/second, 180°/second, 240°/second as available

j. Modalities as needed

VI. Return to competitive sports and full speed cutting activities

a. You need to be cleared by Dr. Hazelwood and your physical therapist/athletic trainer

b. In general, for ACL reconstruction using a soft tissue graft this occurs at the earliest around 9 months

  i. In some cases, this may occur sooner

c. Return to sports and cutting activities is allowed after the patient achieves adequate flexibility, strength and endurance of the knee that is equal to at least approximately 90% of the other side. In some cases we may use other objective testing such as Isokinetic testing.