



Mid-America Orthopedics

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S/P ACL Repair Protocol

First 2 days after surgery they will be in extension and NWB.

Follow protocol as written starting the 3rd day.

First Visit

PROM: 0-90 degrees. Get and keep full extension ASAP. Hyperextension is OK.

AMB: WBAT with crutches if no meniscus repair or chondral changes

Exercise:

- PROM, SLR, quad sets, ankle pumps, weight shifts.
- Weight shifts should be done multi-direction and can include single leg balance for early proprioception if patient has good quad control.
- Stretches for quad-ham-calf with modifications as needed.
- Patient to do patella mobs and self massage for early soft tissue work
- Optional: Mini squats or mini anterior lunge (0-20 deg only)

Special Activities:

- PT removes bandages on POD #3, keep steri-strips intact until Dr Do can remove them.
- No ointments, betadine etc should be used on the incisions or portals.
- If any drainage/oozing is present recover with 4x4's, and notify Dr Do (may need antibiotics).
- **NO ice bags** on any oozing, or open wounds without being covered first with a bandage.
- If any wounds are oozing, delay range of motion until wounds are closed and healed.
- **NO water on wounds** for 1.5 weeks (including showers) even if covered, no submersion of wounds in water (baths) for 2 weeks.
- Patellar mobility (esp. superior glide) soft tissue mobility, electric stim if needed for gross swelling, electric stim if needed for neuromuscular stim to quads/VMO, pulse 3 MHz ultrasound if hard/thick swelling esp. suprapatellar.
- Use Polar Pack/Game Ready/Ice Pack intermittently during the day and continuously at night.
- Use Ace Wrap or compression sleeve for decreasing swelling.

Week 1

PROM: full extension-100 degrees. Still emphasize extension (even into hyperextension) Want L=R for extension ASAP.

AMB: Progress to 1-2 crutches as needed. Must have normal gait before off crutches completely.

Exercise:

- Progress carefully with further closed chain exercises such as step ups, step downs (recommend starting with 2" height), balance reaches, squats (still with limited range), multi plane lunges, emphasis of balance and proprioception work, can add stationary bike.
- OK to work on introducing gentle lateral movements such as side steps with and without thera band, walk through carioca's, high-knee, etc.
- Do not push activity aggressively or hard.
- Also begin focus on abdominals throughout entire rehab: prefer ab exercises on Swiss ball, single leg balance with overhead reaches using weights or sport cord, etc, rather than sit ups.

Special Activities:

- Gradually wean off polar pack.
- May also add heat/cold contrast if swelling is difficult to disperse.
- Continue with patella and soft tissue mobility.
- Modalities as needed.
- If using electric stim for quad/VMO activity do in conjunction with functional quad exercises such as single leg stance, lunge squat, etc.

Week 2 (Patient will recheck with Dr. Do at 2 weeks, 6 wks, and one-month intervals)
Brace can be weaned off at this point.

PROM: Full extension-110 degrees.

AMB: Should be off crutches by now unless problems with pain, swelling, quad control

Exercise:

- Progress same type of exercise: balance, proprioception, reaches, strength, control, all three planes (sagittal, frontal, transverse) but still limiting range and speed as patient can control.
- Challenge balance and intensity with Medicine ball tosses, walking lunges, etc.
- Continue to emphasize good technique with exercises.
- As exercise intensity increases, monitor any increase in patellofemoral or pes anserine pain, and slow down if indicated.
- Continue good stretching program for LE musculature.

Special Activities:

- Pay close attention to soft tissue, with adding massage to portals and possibly to patellar tendon incision if healing well.

Weeks 3-6

PROM: Full extension- 120 degrees at 4 weeks and full flexion at 6 weeks

Exercise:

- OK to progress to fitness center work-outs including cardiovascular equipment (NO RUNNING) and weight equipment if patient is ready with appropriate strength, pain control, decreased swelling.

- Typically patients are ready for the squat rack (1/4 to 1/2 squats), unilateral leg press, hamstring curl, free weights, lunges with hand held weights, etc.
- But NO power cleans, clean and jerk, leg extensions with weight.
- Continue to focus on balance/proprioception, and stimulation of functional activities, but taking care to avoid hard impact/landing.
- Emphasize total body control with dumbbell activities for combination work of strength/balance/proprioception.

Special Activities:

- Still no running, jumping, sport activity of any kind.

Weeks 6-10

PROM: Should have full range by 6-8 weeks out

Exercise:

- Continue advancing cardiovascular workouts, and strength training for all muscle groups, in combination with proprioception, increased range, increased load/demand, simulation of functional activities including return to sport positions/reaches.
- Continue dumbbell workout such as matrix lunge pattern.
- At the 9-10 week mark, advance to low level “step and sticks” to work toward bent-knee landing in preparation for running.

Special Activities:

- Still no running, jumping, or kicking.
- OK to add light, short distance throwing (NO PITCHING), free throws, and chipping/putting.

3 Months

Special Activities:

- May start outdoor bike
- May gradually progress with gentle lateral movements, agility work IF good control, no pain, good stability, and OK with Dr. (Agility to include defensive slide, floor ladder drills, figure 8, carioca's)
- Increase demand into transverse plane movements (pivots, step ex's with rotation)
- Progress to low level plyometrics including stationary jumps, hops, skipping rope. During these activities the emphasis is on bent-knee landing overall LE control.
- Continue to advance functional abdominal work
- **Golf-** may be released for full participation at 3-4 months if patient is ready.

*** With increase in activity, watch for patellofemoral or pes pain and adjust accordingly. ***

4 Months

Special Activities:

- Continue thorough stretching program
- May be released for straight ahead running if OK with Dr and PT (NO Sprinting) A specific running progression is available if needed.
 - Start off with 100 yds. 1/2 speed, on soft level surface.
 - Add 100 yds. every other day if there are no problems from previous day's distance.

- Work up to 1 mile or 1760 yds. You may progress past this if you are wanting to increase distance.
- Sport specific drills may be implemented *with caution*.

5 Months

- Intensify demand/load duration etc for the 3-4 month activities
- Progress with appropriate sport specific drills

6 Months

Special Activities:

- Advance sport specific drills and running program to increased intensity.
- Running program should include increased speed, rounded turns, backpedal, low level direction changes.
- Continue to closely monitor technique
- Advance with more aggressive agility drills including jump, hop, and plyometric activities.
- Teach deceleration and injury prevention techniques to include rounded turns, bent knee landings and 3-step stops.

Sport specific activities:

Soccer: continue ball drills. Allowed to progress to hard kicks on goal depending on whether the plant or kick leg is the involved side. Hard kicks OK if surgery side is the kick leg, not the plant leg

Basketball: lay up drills jump shots OK, but no scrimmaging or even one on one.

Softball/Baseball: OK to advance to throwing, hitting, running bases.

Racquet Sports: OK to do low level hitting against backboard

Addendum for Exercises

1. **Balance Reaches:** generally done by balancing on one leg and then reaching the opposite leg at various angles or either arm at various angles or heights. Can increase difficulty by changing surface, adding dumbbells, changing head position etc.
2. **Abdominal Exercises:** on Swiss ball with contralateral knee-elbow, overhead reaches with ball incorporating diagonal and sagittal movement, sit backs. Also can do single leg balance with diagonal reaches overhead with medicine ball.
3. **Matrix Lunge:** This lunge patten incorporates all three planes of movement and is done by alternating left/right steps. The pattern is: anterior lunge, lateral lunge, and posterior rotation lunge (similar to a pivot movement). This exercise can be done with or without dumbbells and varying depth of reach toward floor.
4. **Step and Stick:** The purpose of this exercise is to prepare the limb to absorb body weight in preparation for running. The most basic form is done on a level surface, by starting with the non-surgery leg back and the person doing a *gentle* hop forward to land on the surgery leg with a bent knee. Focus is for patient to control this deceleration with good form and control. The exercise is advanced by starting the movement off of a step, progressing 2” to 4” etc. The patient must be able to land with control in the bent knee position before he/she would be allowed to run.