UCLA DEPARTMENT OF ORTHOPAEDIC SURGERY
SPORTS MEDICINE

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ACL AND POSTEROLATERAL (PLC) CORNER RECONSTRUCTION PROTOCOL

GENERAL GUIDELINES

- No open chain hamstring work
- Assume 8 weeks ACL graft to bone healing time
- Caution against posterior tibial translation (gravity, muscle action)
- CPM
- Resistance for Hip PRE's placed above knee for hip abduction, adduction. Resistance may be distal for hip flexion.
- Supervised physical therapy takes place for approximately 3-5 months post-op

GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING

Patients may begin the following activities at the dates indicated (unless otherwise specified by the physician):

- Bathing/Showering without brace (surgical incisions should be completely healed before immersion in water) – 5 days post-op
- Sleep without brace - 8 weeks post-op
- Driving: 6 weeks post-op
- Full weightbearing *without assistive devices* – 8 weeks post-op (with physician's clearance)

PHYSICAL THERAPY ATTENDANCE

The following is an approximate schedule for supervised physical therapy visits:

Phase I (0-1 month):	2 visit/week
Phase II (1-3 months):	1-2 visits/week
Phase III (3-9 months):	2 visits/month
Phase IV (9-12 months):	1 visit/month

REHABILITATION PROGRESSION

The following is a general guideline for progression of rehabilitation following ACL/PLC Reconstruction. Progress through each phase should take into account patient status (e.g. healing, function) and physician advisement. Please consult the physician if there is any uncertainty concerning advancement of a patient to the next phase of rehabilitation.

PHASE I:
Begins immediately following surgery and lasts approximately one month

Goals:

- Protect healing bony and soft tissue structures
- Minimize the effects of immobilization through:
  - Early protected range of motion (protect against posterior tibial sagging)
  - PRE's for quadriceps, hip and calf with an emphasis on limiting patellofemoral joint compression and posterior tibial translation
- Patient education for a clear understanding of limitations and expectations of the rehabilitation process.

Brace:

- Week 1: Locked at 20°.
  - At times brace may be locked in full extension (i.e. 0°) from the time of surgery
- Week 2: Locked at 10°.
- Week 3: Locked at 0°.
- At 3 to 8 days post-op the brace is unlocked for passive range of motion performed by a physical therapist.
- Patients will be instructed in self administered PROM with the brace on with emphasis on supporting the proximal tibia.

ROM:

- Week 1: 20-60° as tolerated
- Week 2: 10-70° as tolerated
- Week 3: 0-80° as tolerated
- Week 4: 0-90°

Weightbearing Status

- No weight-bearing x 3 weeks, then full weight-bearing with crutches, brace is locked.

Special Considerations:

- Pillow under proximal posterior tibia at rest to prevent posterior sag

Therapeutic Exercises:

- Quad Sets
- SLR
- Hip AB/AD
- Hip alphabet
- Ankle Pumps

Add at first post-op visit:

- Hamstring and Calf stretching
- Calf press with Theraband progressing to standing calf raises with full extension

- Standing hip extension from neutral
- Continue exercises as above
- *Note Functional Electrical Stimulation may be used for trace to poor quad contraction

PHASE II:

Begins approximately 1 month post-op, and extends to the 12th post-op week. Expectations for advancement to Phase II:

- Good quad control (Good quad set, no lag with SLR)
- Approximately 60° of knee flexion
- Full knee extension
- No signs of active inflammation

Goals:

- Increase range of motion (flexion)
- Restore normal gait
- Continue quadriceps strengthening and hamstring flexibility

Brace:

- 4-6 weeks: Brace is unlocked for controlled gait training only (patient may ambulate with brace unlocked while attending physical therapy or when at home)
- 6-8 weeks: Brace is unlocked for all activities
- 8-12 weeks: Discontinue brace as allowed by physician.

Weightbearing Status:

- 4-8 weeks: WBAT with crutches
- 8-12 weeks: May D/C crutches if patient exhibits:
  - No quad lag with SLR
  - Full knee extension
  - Knee flexion 90-100°
  - Normal gait pattern (Pt. may utilize one crutch or cane until normal gait is achieved)

Therapeutic Exercises:

- 4-8 weeks: When patient exhibits independent quad control, may begin open chain extension
  - Wall slides (0-45°), begin isometric, progress to active against body weight. Progress to mini-squats etc.
  - Eagle 4-way hip for flexion, AB, AD, Ext from neutral with knee fully extended.
  - Ambulation in pool (work on restoration of normal heel-toe gait pattern in chest deep water
- 8-12 weeks:
  - Stationary Bike: Foot is placed forward on the pedal without use of toe clips to minimize hamstring activity. Seat slightly higher than normal
  - Closed kinetic chain terminal knee extension utilizing resisted band or weight machine. Use caution to place point of resistance to minimize tibial displacement.
  - Stairmaster
  - Balance and Proprioception activities (e.g. single leg stance)
  - Seated calf raises
  - Leg press. Knee flexion should be limited to 90° during exercises.

PHASE III:

Begins approximately three months post-op, and extends to nine months post-op. Expectations for advancement to Phase III:

- Full, pain free range of motion. Note that it is not unusual for flexion to be lacking 10° for up to 5 months post-op.
- Normal gait.
- Good to normal quadriceps strength
- No patellofemoral complaints
- Clearance by physician to begin more concentrated closed kinetic chain progression

Goals:

- Restore any residual loss of motion that may prevent functional progression
- Progress functionally and prevent patellofemoral irritation.
- Improve functional strength and proprioception utilizing closed kinetic chain exercises
- Continue to maintain quadriceps strength and hamstring flexibility

Therapeutic Exercises:

- Continue closed kinetic chain exercise progression
- Treadmill walking
- Jogging in pool with wet vest or belt
- Swimming – no breaststroke

PHASE IV:

Begins approximately 9 months post-op and extends until the patient has returned to work or desired activity. Expectations for advancement to Phase IV:

- Release by physician to resume full or partial activity
- No significant patellofemoral or soft tissue irritation
- Presence of the necessary joint range of motion, muscle strength and endurance, and proprioception to safely return to work or athletic participation

Goals:

- Safe and gradual return to work or athletic participation
  - This may involve sports specific training, work hardening or job restructuring as needed
  - Patient education is essential to provide the patient with a clear understanding of their possible limitations
- Maintenance of strength, endurance and function
- Cross-country ski machine
- Sports specific functional progression which may include but not be limited to:
  - Slide Board
  - Jog/Run progression
  - Figure 8, Carioca, Backward running, cutting
  - Jumping (plyometrics)
- Work hardening program as directed by physician prescription