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Post-Operative Rehabilitation Protocol:

Combined Posterior Cruciate Ligament & Posterolateral Corner (PCL & PLC) Reconstruction

PHASE I: IMMEDIATE POST-OPERATIVE PHASE (WEEKS 0-2)

GOALS: Decrease swelling, pain control, prevent quad atrophy.

I. Immediate Post-Operative to Week 2:

A. General:

- * Brace locked in full extension. May remove for shower/bathing.
- * Elevate knee above heart level often
- * Cryotherapy unit or ice 20 minutes/hour

B. Weight Bearing:

- * Foot flat touch down WB (10-15%) in brace locked in full extension

C. Range of Motion Goals:

- * Active/passive ROM 0°-60°, 4-5 times per day.

D. Treatment / Exercises:

- * Ankle pumps, Theraband ankle exercises
- * Gentle patellar mobilization/scar mobilization
- * VMO quad sets with biofeedback
- * Knee extensions 60°-0°
- * EMS especially important if patient unable to initiate quad sets
- * Straight leg raises – flexion, adduction, abduction
- * Stretch hamstring, gastroc
- * Apply anterior drawer force to tibia during knee ROM
- * ***Avoid varus stress***

PHASE II – MAXIMUM PROTECTION PHASE (WEEKS 2-6)

GOALS: Protect healing tissue, improve motion, decrease swelling, pain control, prevent muscle atrophy.

Enter Phase II if:

- ✓ PROM, AAROM 0°-60°
- ✓ Able to perform SLR

- ✓ Minimal pain/swelling

II. Weeks 2-4:

A. General:

- * Brace locked in full extension
- * Cryotherapy unit or ice 20 minutes/hour

B. Weight Bearing:

- * Foot flat touch down WB (10-15%) in brace locked in full extension

C. Range of Motion Goals:

- * PROM/AAROM 0°-60°, 4-5 times daily.

D. Treatment / Exercises:

- * Continue previous treatment
- * Upper extremity ergometer
- * Multi-angle isometrics (60°, 40°, 20°)
- * Well leg bicycle
- * EMS to quads
- * SLR in 4 planes with 1 lb. Increase lb per week
- * Aggressive patella and soft tissue mobilization
- * Apply anterior drawer force to tibia during knee ROM
- * ***Avoid varus stress***

III. Weeks 4-5:

A. General:

- * Brace locked in full extension
- * Ice 20 minutes/hour at patient's discretion

B. Weight bearing:

- * PWB (50%) in brace locked in full extension

C. ROM goals:

- * PROM/AAROM 0°-90°

D. Treatment / Exercises:

- * Continue with previous treatment
- * Weight shifts
- * Pool walking
- * Knee extension 80°-40°
 - * Bike for ROM/endurance
- * ***Avoid varus stress***

IV. Weeks 5-6:

A. General:

- * Fit for medial unloader brace
- * Ice 20 minutes/hour at patient's discretion

B. Weight bearing:

- * PWB (50%) in brace locked in full extension

C. ROM goals:

- * PROM/AAROM/AROM 0°-110°

D. Treatment / Exercises:

- * Continue previous treatment
- * Initiate pool exercises

- * ***Avoid varus stress***

PHASE III: CONTROLLED AMBULATION PHASE (WEEKS 6-9)

GOALS: Improve ambulation, Improve motion, Protect reconstruction.

Enter Phase III if:

- ✓ Minimal pain/swelling
- ✓ AROM 0°-110°
- ✓ Quad strength at least 60% of uninvolved leg
- ✓ No change in laxity

V. Weeks 6-9:

A. General:

- * Discontinue locked brace. Brace opened 0°-125°
- * Ice 20 minutes/hour at patient's discretion

B. Weight bearing:

- * WBAT

C. ROM goals:

- * PROM/AAROM/AROM 0°-120°

D. Treatment / Exercises:

- * Continue with previous treatment
 - * Swimming
 - * Increase Proprioceptive training

PHASE IV: MODERATE PROTECTION PHASE (WEEKS 9-14)

GOALS: Develop strength and power.

Enter Phase IV if:

- ✓ Minimal pain/tenderness
- ✓ Minimal swelling
- ✓ AROM 0°-120°
- ✓ Quad strength at least 70% of uninvolved leg

VI. Weeks 9-14:

A., B. As above

C. ROM goals:

* PROM/AAROM/AROM to full

D. Treatment / Exercises:

- * Continue with previous treatment
- * Eccentric quad exercises
- * Initiate step ups (2", increase gradually)
- * Advance closed kinetic chain exercises
- * Knee extensions 90°-40°
- * Leg press 0°-70°
- * Toe raises
- * Proprioceptive training squats 0°-45°
 - * Proprioceptive training – weight shifts, balance board, mini-trampoline
 - * Light hamstring curls and stretches
 - * Bicycle for endurance
 - * Pool running forward & backward
 - * Stairmaster
 - * Isokinetic test – Week 10-12
 - * Initiate isokinetic work 100°-40°

PHASE V: PRE-PARTICIPATION TRAINING (MONTHS 3-6)

GOALS: Improve strength/endurance, Enhance neuromuscular coordination, Prepare for return to functional activities.

Enter Phase V if:

- ✓ No pain/swelling
- ✓ AROM 0°-125°
- ✓ Strength at least 70% of uninvolved leg
- ✓ No change ligamentous exam

VII. Months 3-6:

A., B., C. As above.

D. Treatment / Exercises:

- * Continue with previous treatment
- * Isokinetic test (Week 16-18)
- * Initiate plyometric program

PHASE VI: RETURN TO ACTIVITY PHASE (MONTHS 6+)

GOALS: Achieve maximal strength, Enhance neuromuscular function/endurance, Prepare for complete return to activity.

Enter Phase VI if:

- ✓ No pain/tenderness
- ✓ No change ligamentous exam
- ✓ Strength at least 80% of uninvolved leg
- ✓ Begin pivoting motions with doctor's clearance

VIII. Months 6+:

A., B., C. As above.

D. Treatment / Exercises:

- * Continue with previous treatment
- * Plyometrics medium to high intensity
- * Agility drills
- * Sport specific drills
- * Continue running and agility training
- * Introduce running program at Month 6 if:
 - ✓ Satisfactory isokinetic test
 - ✓ Functional test at least 70% of uninvolved leg
 - ✓ Satisfactory clinical exam
- * Return to full activity around Month 9 and if quad strength is within 10% of uninvolved leg (with doctor's clearance)

*** Addendum**

This protocol provides general rehabilitation guidelines following combined PCL & PLC reconstruction procedures. It is subject to modification depending on several factors:

- (1) the degree of injury,
- (2) the type of grafts used,
- (3) the type and extent of associated surgical intervention
- (4) your individual progress post-operatively

For any questions, please call my office at 860-244-1017.