

Anterior and Posterior Cruciate Ligament Combined Reconstruction Surgery Rehabilitation Program

Name: _____

Date: _____

Diagnosis: _____

Date of Surgery: _____

Phase I (Day 1-13)

- Goals:
 - Restore full passive knee extension
 - Diminish joint swelling and pain
 - Restore patellar mobility
 - Gradually improve knee flexion
 - Re-establish quadriceps control
 - Restore independent ambulation
- **Postoperative Day 1-4**
 - Brace:
 - Drop lock brace locked at 0 degrees extension with compression wrap
 - Sleep in brace
 - Weight bearing:
 - Two crutches as tolerated (less than 50%)
 - Range of motion:
 - 0-45/50°
 - Exercises:
 - Ankle pumps
 - Quad sets
 - Straight leg raising -flexion, abduction, adduction in brace
 - Muscle stimulation to quadriceps (4 hours per day) during quad sets & straight leg raises
 - Patellar mobilizations 5-6 times daily
 - Ice and elevation every 20 minutes of each hour with knee in extension
- **Postoperative Day 5-13**
 - Brace:
 - Continue use of drop lock brace locked at 0° extension during ambulation & sleep
 - Weight Bearing:
 - Two crutches -gradually increase WB to 50% by day 7; 75% by day 12
 - Range of Motion:
 - Day 5: 0-65°
 - Day 7: 0-70°
 - Day 10: 0-75°
 - Day 14: 0-90°
 - Exercises:
 - Continue previous exercises
 - Continue use of muscle stimulation
 - Patellar mobilizations 5-6 times daily
 - Continue use of ice, elevation, and compression

Phase II -Maximum Protection (Week 2-6)

- **Criteria to Enter Phase II:**
 - Good quad control (ability to perform good quad set and SLR)
 - Full passive knee extension



- PROM 0-90°
- Good patellar mobility
- Minimal joint effusion
- **Goals:**
 - Control deleterious forces to protect grafts
 - Nourish articular cartilage
 - Decrease swelling
 - Decreased fibrosis
 - Prevent quad atrophy
 - Initiate proprioceptive exercises
- **Week 2**
 - Brace
 - Continue use of brace locked at 0° of extension
 - Weight Bearing
 - As tolerated; approximately 75% body weight
 - Range of motion
 - Continue to perform passive ROM 5-6 times daily
 - Day 14: 0-90°
 - Exercises
 - Continue quad sets & straight leg raises
 - Multi-angle isometrics at 60° and 40°
 - Patellar mobilizations 5-6 times daily
 - Well leg bicycle
 - Mini-squats (0-45°)
 - Continue use of muscle stimulation
 - Continue ice, elevation, and compression
 - Quadriceps isotonic 90-40°
- **Week 3**
 - Continue above mentioned exercises
 - ROM: 0-90°
 - Continue use of 2 crutches – 75-80% body weight
- **Week 4**
 - Brace
 - Continue use of brace locked at 0° degrees extension
 - Discontinue sleeping in brace
 - Weight bearing
 - Progress to weight bearing as tolerated with 1 crutch
 - Range of Motion
 - AROM, AAROM, PROM: 0-90/100°
 - Exercises
 - Weight shifts
 - Mini-squats (0-45°)
 - Quadriceps isotonic 90-40°
 - Light pool exercises and walking
 - Initiate bicycle for ROM & endurance
 - Begin leg press 60-0° (light weight)
 - Proprioception/balance drills
- **Week 5-6**
 - Discontinue use of crutches week 5-6
 - Unlock brace for ambulation week 6
 - Fit for functional ACL/PCL brace



- Range of Motion
 - Week 5: 0-105°
 - Week 6: 0-115°
- Continue pool exercises
- Initiate lateral lunges



Phase III -Moderate Protection (week 7-12)

- **Criteria to enter Phase III**
 - PROM 0-115°
 - Full weight-bearing
 - Quadriceps strength > 60% contralateral side (isometric test at 60 degrees)
 - Minimal to no full joint effusion
 - No joint line or patellofemoral pain
- **Goals**
 - Control forces during ambulation
 - Progress knee range of motion
 - Improve lower extremity strength
 - Enhance proprioception, balance, and neuromuscular control
 - Improve muscular endurance
 - Restore limb confidence and function
- **Brace**
 - Continue use of unlocked brace for ambulation –discharge week 7-8
- **Range of motion**
 - AAROM/PROM: 0-125°
- **Exercises**
 - Continue previous exercises
 - Initiate swimming
 - Initiate lateral and front step-ups (2" step, gradually increase)
 - Progress closed kinetic chain exercises (squats 0-60°, leg press 90-0°)
 - Progress proprioceptive training



Phase IV -Controlled Activity (Week 13-16)

- **Criteria to enter Phase IV:**
 - AROM 0-125°
 - Quadriceps strength > 60-70 contralateral side (isokinetic test)
 - No change in KT scores (+2 or less)
 - No patellofemoral complaints
 - Satisfactory clinical exam
- **Goals**
 - Protect healing grafts
 - Protect patellofemoral joint articular cartilage
 - Normalize lower extremity strength
 - Enhance muscular power and endurance
 - Improve neuromuscular control
- **Exercises**
 - Continue previous exercises
 - Emphasis on eccentric quadriceps strengthening
 - Continue closed kinetic chain mini squats, step-ups, step-downs, lateral lunges and leg presses
 - Hip abduction/adduction
 - Initiate front lunges
 - Calf raises (gastroc and soleus strengthening)



- Bicycle and stairmaster for endurance
- Initiate pool running (side shuffle, backward, forward)
- Initiate walking program
- Initiate isokinetic exercise 100-40° (120-240°/spectrum)

Phase V –Light Activity (Month 4-6)

- **Criteria to enter Phase IV**
 - AROM > 125°
 - Quadriceps strength 70% of contralateral side; flexion/extension ratio 70-79%
 - Minimal joint effusion
 - Satisfactory clinical exam
- **Goals**
 - Enhancement of strength, power, endurance
 - Initiate functional and/or sport-specific activity
 - Prepare for return to functional activities
- **Exercises**
 - Continue strengthening exercises –emphasize quadriceps & co contraction
 - Initiate plyometric program
 - Initiate running program*
 - Initiate agility drills
 - Initiate sport-specific training and drills
- ***Criteria to initiate running program**
 - Acute reconstruction may begin at 4-5 months
 - Chronic reconstruction may begin at 5-6 months
 - Satisfactory clinical exam
 - Unchanged KT Test
 - Satisfactory isokinetic test
 - Quadriceps bilateral comparison (80% or greater)
 - Hamstring bilateral comparison (110% or greater)
 - Quadriceps torque/body weight ratio (55% or greater)
 - Hamstring/quadriceps ratio (70% or greater)
 - Proprioception testing 100% of contralateral side
 - Function hop test >75% of contralateral leg

Phase VI –Return to Activity Phase (Month 6-9)

- **Criteria to return to activities:**
 - Satisfactory clinical exam
 - Unchanged KT test
 - Satisfactory isokinetic test
 - Proprioception testing 100% of contralateral leg
 - Functional hop test > 80% of contralateral leg
- **Goals**
 - Gradual return to full-unrestricted sports
 - Achieve maximal strength and endurance
 - Normalize neuromuscular control
 - Progress skill training
- **Exercises**
 - Continue strengthening programs
 - Continue proprioception & neuro muscular control drills
 - Continue plyometric program
 - Continue running and agility program
 - Progress sport specific training and drills



- **CLINICAL FOLLOW-UPS AT 6, 12, AND 24 MONTHS POSTOPERATIVE**
 - Functional testing
 - Clinical exam

Comments:

Frequency: ____ times per week

Duration: ____ weeks

Signature: _____

Date: _____