

**REHABILITATION PROTOCOL FOLLOWING  
SINGLE-TUNNEL PCL-PTG RECONSTRUCTION**

**I. IMMEDIATE POST-OPERATIVE PHASE (Week 1)**

**POD 1- 3**

Brace - EZ Wrap locked at zero degrees extension

Weight Bearing - Two crutches as tolerated (less than 50%)

Range Of Motion - Patient out of brace 4-5 times daily to perform self ROM (0-90)

Exercises       \* Ankle Pumps  
                  \* Quad Sets  
                  \* Straight Leg Raises (3 Way) Hip Flexion, Abduction, Adduction  
                  \* Knee Extensions 60-0 degrees

Muscle Stimulation - Muscle stimulation to quads (4 hours a day) during quad sets.

CPM - Zero to 60 degrees as tolerated

Ice and Elevation - Ice 20 minutes out of every hour and elevate with knee in extension.

**POD 4-7**

Range of Motion - (0 - 75/80 degrees)

Weight Bearing - Two Crutches (75%)

Exercises - Progress Strengthening Exercises

**II. MAXIMUM PROTECTION PHASE (Week 2 - 6)**

GOALS:       Absolute control of external forces to protect graft  
                  Nourish Articular Cartilage  
                  Decrease Swelling  
                  Decrease Fibrosis  
                  Prevent Quad Atrophy

**Week Two**

Brace - EZ Wrap locked at zero degrees

Range of Motion - Patient out of brace 4-5 times daily to perform self ROM (0-90)

Weight Bearing - As tolerated 75% or greater

KT Test - Performed 15 lb anterior-posterior force at 20-35 degrees and 15 lb anterior-posterior at  
            QNA ≈ 70 degrees of flexion as tolerated.

Exercises:     \* Multi Angle isometrics 60, 40, 20 degrees  
                  \* Quad Sets  
                  \* Knee Extension 60-0 degrees  
                  \* Intermittent ROM 0-60 (4-5 times daily)  
                  \* Patellar Mobilization  
                  \* Well Leg Bicycle  
                  \* Proprioception Training squats (0-45 degrees)  
                  \* Continue electrical stimulation to quads  
                  \* Leg Press (0-60 degrees)  
                  \* Continue ice and elevation

**PHASE II (Week 2-6): Continued****Week Four**

Brace - EZ Wrap locked at zero

Range of Motion - (0-105/110 degrees)

Full Weight Bearing - No crutches; one crutch if necessary

KT 2000 Test - Perform 15 lb and 20 lb anterior-posterior force at 20-35 degrees and 15 lb and 20 lb anterior-posterior at QNA  $\approx$  70 degrees of flexion as tolerated.

Exercises

- \* Weight Shifts
- \* Mini-Squats 0-45 degrees
- \* Intermittent ROM 0-90 degrees
- \* Knee Extension 60-0 degrees
- \* Pool walking
- \* Initiate Bike for ROM and Endurance

**Week Five**

- \* Initiate pool exercises
- \* Fit for functional PCL Brace

**III. CONTROLLED AMBULATION PHASE (Week 7-12)**

GOALS: Control forces during ambulation  
Increase quad strength

**Week Seven**

Brace - Discontinue locked brace, brace opened 0-125 degrees

Criteria for Full Weight Bearing with Knee Motion:

- a. AAROM 0-115 degrees
- b. Quad Strength 70% of contralateral side (isometric test)
- c. No change in KT test
- d. Decreased joint effusion

Ambulation - with functional brace

Exercises

- \* Continue all exercises stated above
- \* Initiate swimming
- \* Initiate vigorous stretching program
- \* Increase closed kinetic chain rehabilitation

**PHASE III (Week 7-12): Continued**

**Week Eight**

KT 2000 Test - Perform 15 lb and 20 lb anterior-posterior force at 20-35 degrees and 15 lb and 20 lb anterior-posterior at QNA ≈ 70 degrees of flexion as tolerated.

Exercises

- \* Continue all exercises stated above

**Week Twelve**

Ambulation - Discontinue with brace

Brace - Used for strenuous activities

KT 2000 Test - Perform 15 lb, 20 lb and 30 lb anterior-posterior force and Manual Maximum at 20-35 degrees and 15 lb and 20 lb anterior-posterior and Manual Maximum at QNA ≈ 70 degrees of flexion as tolerated.

Exercises

- \* Begin Isokinetic 60 to 0 degrees ROM
- \* Continue Mini-Squats
- \* Initiate Lateral Step Ups
- \* Initiate Pool Running (Forward Only)
- \* Initiate Hamstring Curls (0-60, Low Weight)
- \* Bicycle for endurance (30 Minutes)
- \* Begin walking program

**IV. LIGHT ACTIVITY PHASE (3-4 months)**

GOALS:           Development of strength, power and endurance  
                       Begin to prepare for return to functional activities

Exercises

- \* Begin light running program
- \* Continue isokinetic (light speed, full ROM)
- \* Continue Eccentrics
- \* Continue Mini-Squats/Lateral Step Ups
- \* Continue Closed Kinetic Rehabilitation
- \* Continue Endurance exercises

Tests

- \* Isokinetic Test (15th week)
- \* KT 2000 Test (Prior to running program)
- \* Functional Test (Prior to running program)

Criteria For Running

1. Isokinetic Test Interpretation satisfactory
2. KT 2000 Test unchanged
3. Functional Test 70% of contralateral leg

**V. RETURN TO ACTIVITY (5-6 months)**

Advance rehabilitation to competitive sports

GOALS: Achieve maximal strength and further enhance neuromuscular coordination and endurance

Exercises

- \* Closed Kinetic Rehabilitation
- \* High Speed Isokinetics
- \* Running Program
- \* Agility Drills
- \* Balance Drills
- \* Plyometrics Initiated

6 MONTH FOLLOW-UP

- \* KT 2000 Test
- \* Isokinetic Test
- \* Functional Test

12 MONTH FOLLOW-UP

- \* KT 2000 Test
- \* Isokinetic Test
- \* Functional Test