

# 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  $\approx$  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

#### **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

**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  $\approx$  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  $\approx$  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