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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

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