

Rehabilitation Protocol Following Single-Tunnel PCL-PTG Reconstruction

Phase 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

Phase II – Maximal 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

Exercises: Multi-Angle isometrics 60, 40, 20 degrees
 Quad sets
 Knee Extension 60-0 degrees
 Intermittent ROM 0-60 (4-5 times)
 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 Testing – 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: 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
Fir for functional PCL brace

Phase 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:

AAROM 0-115 degrees

Quad Strength 70% of contralateral side (isometric test)

No change in KT test

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 = 70 degrees of flexion as tolerated

Exercises: Continue all exercises stated above

Week Twelve

Ambulation – Discontinue with brace

Brace – Used for stretches

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

Phase 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 Return:

Isokinetic Test interpretation satisfactory
KT 2000 Test unchanged
Functional Test 70% of contralateral leg

Phase 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