

PCL-Double Bundle Reconstruction

(with PTG-BTB and Hamstring/Quad Tendon autograft)

I. Immediate Post-Operative Phase

POD-1

BRACE - EZ Wrap locked at zero degrees extension

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

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 q hour and elevate with knee in extension

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

A: Week Two

Brace - EZ Wrap locked at zero degrees

Continue to perform intermittent ROM exercises

Weight bearing - as tolerated 50% or greater

KT test -Performed 15 (lb) max force (at 70 degrees flexion) only if MD orders

Exercise

- * Multi angle isometrics 60,40,20 degrees
- * Quad sets
- * Knee extension 60-0 degrees
- * Intermittent ROM 0-60 (4-5 x 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

B: Week Four

Brace - EZ wrap locked at zero

Full weight bearing - No crutches; one crutch if necessary

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

C: 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

A. 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. Decrease joint effusion

Ambulation - with functional brace. (If not already ordered, fit and order a custom Functional knee brace at this time. Occasionally there will be too much swelling or quad atrophy in which case we delay ordering the brace for 2 - 4 more weeks.)

Exercises

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

B. Week Eight

Exercises

- *Continue all exercises stated above

C. Week Twelve

Ambulation - Discontinue with brace

Brace - Used for strenuous activities

KT 2000 Test - Performed

Exercises

- * Begin Isokinetic 60-0 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 & 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) Advice to 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