Orthopaedic Sports Specialists, P.C.

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REHABILITATION PROTOCOL:
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

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. 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

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)
* Functional Test (Prior to running program)

Criteria for Running

1. Isokinetic Test Interpretation satisfactory
2. 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

* Isokinetic Test
* Functional Test

12 MONTH FOLLOW-UP

* Isokinetic Test
* Functional Test