PCL Reconstruction

Post-Operative Rehabilitation Protocol

Ironman Sports Medicine Institute

1st Edition
PCL Protocol

PHASE 1 - ACUTE (0-6 Weeks)

PHASE GOALS: PROTECT GRAFT, RESTORE AMBULATION & ADL STATUS

RANGE OF MOTION

0-4 WEEK - FULL EXTENSION (AVOID OVERPRESSURE); FLEXION TO 90 DEG (NO POST SAG)

4-6 WEEKS - PROGRESS FLEXION TO 110 DEGREES

WEIGHT BEARING

0-4 WEEKS - WEIGHT BEARING AS TOLERATED (FULL EXTENSION)

4+ WEEKS - FULL WEIGHT BEARING

BRACE & CRUTCH USE

0-4 WEEKS - LOCKED IN FULL EXTENSION

4-6 WEEKS - OPEN BRACE TO FULL *WITH GOOD QUAD CONTROL

6+ WEEKS - DC BRACE AND CRUTCHES WHEN GAIT IS NORMAL

STRENGTHENING & CONDITIONING

0-4 WEEKS - QUAD SETS, STRAIGHT LEG RAISES, WEIGHT SHIFTS

4-6 WEEKS - ADD MINI-SQUATS, PARTIAL RANGE LEG PRESS

CRITERIA FOR FULL AMBULATION WITHOUT CRUTCHES

• AT LEAST 6 WEEKS OUT FROM SURGERY
• > 0 DEG KNEE EXTENSION & 70 DEG KNEE FLEXION
• > 30 STRAIGHT LEG RAISES WITHOUT A LAG
• > 20 SEC OF SINGLE LEG BALANCE (BEES)
• SYMMETRICAL GAIT WITHOUT A LIMP
PCL Protocol

PHASE 2 - STRENGTH (6-12 Weeks)

PHASE GOALS: IMPROVE STRENGTH & INITIATE JOGGING PROGRAM

RANGE OF MOTION

6-8 WEEKS - MAINTAIN EXTENSION, PROGRESS FLEXION TO 130 DEG

8+ WEEKS - PROGRESS FLEXION TO FULL

STRENGTHENING

LEG PRESS, STEP-UPS, & LIGHT ROMANIAN DEADLIFTS (RDLs)

SQUAT PROGRESSION (BODYWEIGHT SQUATS -> SINGLE LEG SQUATS)

CORE EXERCISES (V-UPS, SINGLE-LEG BRIDGING)

*NO OPEN CHAIN HAMSTRING STRENGTHENING

CONDITIONING

STATIONARY BIKING - INITIATE AT 110 DEGREES FLEXION

ELLIPTICAL & ROWING MACHINE, INITIATE JOGGING PROGRAM

CRITERIA FOR JOGGING

• AT LEAST 12 WEEKS POST-SURGERY
• PAIN LESS THAN 3 / 10 (WORST)
• WITHIN 2 DEG NORMAL KNEE EXTENSION & 120 DEG KNEE FLEXION
• QUADRICEPS & HAMSTRING STRENGTH > 60% NORMAL
• AT LEAST 1 MINUTE OF SINGLE LEG SQUATS
• MD OR PT APPROVAL
PCL Protocol

PHASE 3 - AGILITY (12-24 Weeks)

PHASE GOALS: INTRODUCE DYNAMIC & POWER MOVEMENTS

STRENGTHENING

GYM SPECIFIC STRENGTHENING (BARBELL SQUATS & DEADLIFTS)
INITIATE PROGRESSIVE ISOLATED HAMSTRING STRENGTHENING
CORE EXERCISES (MOUNTAIN CLIMBERS, PLANKS, V-UPS)

CONDITIONING

BIKING, ELLIPTICAL, JOGGING, SWIMMING

PLYOMETRICS & LIGHT AGILITY

16 WEEKS - LADDER DRILLS, DOUBLE LEG BOX JUMPS, SIDE SHUFFLE
20 WEEKS - SINGLE LEG BOX JUMPS & HOPPING, LIGHT AGILITIES

CRITERIA FOR HEAVY AGILITY & SPORT SPECIFIC MOVEMENTS

• 20 WEEKS POST-SURGERY
• PAIN LESS THAN 2 / 10 (WORST)
• QUAD & HAM STRENGTH ≥ 80% NORMAL; ≥ 50% H/Q RATIO FOR FEMALES
• AT LEAST 2 MINUTES OF SINGLE LEG SQUATS (RESISTED)
• ≤ 5 ON LANDING ERROR SCORING SYSTEM (LESS)
• MD OR PT APPROVAL
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PHASE 4 - RETURN TO PLAY (24+ Weeks)

PHASE GOALS: INITIATE SPORTS SPECIFIC MOVEMENTS & RETURN TO PLAY

STRENGTHENING

PROGRESS GYM STRENGTHENING (BARBELL SQUATS, DEADLIFTS, ETC)

BIODEX QUAD & HAMSTRING FATIGUE PROTOCOLS & CORE EXERCISES

CONDITIONING

JOGGING, BIKING, & SWIMMING

INTERVAL SPRINT WORKOUTS

PLYOMETRICS & AGILITY (2-3 DAYS/WEEK)

MAX EFFORT BOX JUMPS (PROGRESS WITH ROTATION)

LATERAL & ROTATIONAL AGILITY

SINGLE-LEG HOPS

UNPREDICTABLE CUTTING & CONTACT DRILLS

RECOMMENDED CRITERIA FOR RETURN TO PLAY

• PAIN LESS THAN 2 / 10 (WORST)
• QUAD & HAM STRENGTH ≥ 90% NORMAL; ≥ 60% H/Q RATIO FOR FEMALES
• AT LEAST 3 MINUTES OF SINGLE LEG SQUATS (RESISTED)
• 90% NORMAL ON ALL SINGLE-LEG HOP TESTS
• 95% NORMAL ON FIGURE OF 8, 5-10-5 PRO-AGILITY, & S-L VERTICAL JUMP
• MD OR PT APPROVAL