

UT★ORTHO

A Part of UT Physicians

PCL Reconstruction

Post-Operative Rehabilitation Protocol

Ironman Sports Medicine Institute

1st Edition

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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 (BESS)**
- **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 \geq 60% NORMAL**
- **AT LEAST 1 MINUTE OF SINGLE LEG SQUATS**
- **MD OR PT APPROVAL**

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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 \geq 80% NORMAL; \geq 50% H/Q RATIO FOR FEMALES**
- **AT LEAST 2 MINUTES OF SINGLE LEG SQUATS (RESISTED)**
- **\leq 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 \geq 90% NORMAL; \geq 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**