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# ACL Reconstruction

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Post-Operative Rehabilitation Protocol

Ironman Sports Medicine Institute  
1st Edition

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# ACL Reconstruction

PHASE 1 - ACUTE (0-6 Weeks)

**PHASE GOALS: PROTECT GRAFT, RESTORE AMBULATION & ADL STATUS**

**RANGE OF MOTION \* NO MENISCUS/CARTILAGE PROCEDURES**

- **0-1 WEEK – FULL EXTENSION SLOWLY PROGRESS FLEXION TO 90 DEGREES**
- **1+ WEEKS – MAINTAIN FULL EXTENSION & GRADUALLY PROGRESS TO FULL FLEXION**

**WEIGHT BEARING**

- **0-2 WEEKS - WEIGHT-BEARING AS TOLERATED**
- **2+ WEEKS - FULL WEIGHT BEARING WITH SYMMETRICAL GAIT**

**BRACE & CRUTCH USE**

- **0-1 WEEK - BRACE LOCKED IN FULL EXTENSION**
- **1-2 WEEKS - OPEN BRACE TO 60 DEG**
- **2+ WEEKS – BRACE OPEN WITH GOOD QUAD CONTROL & FULL EXTENSION; DC BRACE & CRUTCHES WHEN GAIT IS NORMAL**

**STRENGTHENING**

- **QUAD SETS, STRAIGHT LEG RAISES, HIP ABDUCTION**
- **BALANCING, PRE-GAIT, CALF RAISES**

**CRITERIA FOR FULL AMBULATION**

- **≥ 0 DEG KNEE EXTENSION & 90 DEG KNEE FLEXION**
- **≥ 30 STRAIGHT LEG RAISES WITHOUT LAG**
- **MINIMAL EFFUSION, PAIN, & SYMMETRICAL GAIT WITHOUT A LIMP**
- **MD OR PT APPROVAL**

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PHASE 2 – STRENGTH & JOGGING (6-12 Weeks)

**PHASE GOALS: IMPROVE STRENGTH & INITIATE JOGGING PROGRAM**

## **RANGE OF MOTION**

- **6+ WEEKS - SYMMETRICAL & PAIN-FREE WITH OVERPRESSURE**

## **STRENGTHENING**

- **LEG PRESS, STEP-UPS, & ROMANIAN DEADLIFTS (RDLs)**
- **SQUAT PROGRESSION (BODYWEIGHT SQUATS -> SINGLE LEG SQUATS)**
- **RESISTED HIP ABDUCTION LATERAL BAND WALKS**
- **CORE EXERCISES (PLANKS, V-UPS, SINGLE-LEG BRIDGING)**

## **CONDITIONING**

- **STATIONARY BIKING (MUST BE BEYOND 110 DEG KNEE FLEXION)**
- **ELLIPTICAL & ROWING MACHINE**
- **SWIMMING (PROGRESS KICKING GRADUALLY & PAIN-FREE)**

## **CRITERIA FOR JOGGING**

- **PAIN LESS THAN 3 / 10 (WORST)**
- **WITHIN 2 DEG NORMAL KNEE EXTENSION & 120 DEG KNEE FLEXION**
- **QUADRICEPS & HAMSTRING STRENGTH  $\geq$  60% NORMAL**
- **LESS THAN 4cm DEFICIT ON SINGLE-LEG SQUAT (ANTERIOR REACH)**
- **AT LEAST 1 MINUTE OF SINGLE LEG SQUATS**
- **MD OR PT APPROVAL**

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PHASE 3 - AGILITY (12-20 Weeks)

**PHASE GOALS: INTRODUCE DYNAMIC & POWER MOVEMENTS**

## **RANGE OF MOTION**

- 12+ WEEKS - MAINTAIN SYMMETRY & PAIN-FREE OVERPRESSURE

## **STRENGTHENING**

- GYM STRENGTHENING (SQUATS, DEADLIFTS, INITIATE OLYMPIC LIFTING)
- CORE EXERCISES (MOUNTAIN CLIMBERS, PLANKS, V-UPS)
- BIODEX FATIGUEING PROTCOLS

## **CONDITIONING**

- BIKING, ELLIPTICAL, JOGGING, SWIMMING & ROWING

## **PLYOMETRICS & LIGHT AGILITY**

- LADDER DRILLS, FOOTWORK AGILITIES
- BOX JUMPS (DOUBLE & SINGLE LEG)
- HIGH INTENSITY PREDICTABLE AGILITY MOVEMENTS

## **CRITERIA FOR HEAVY AGILITY**

- PAIN LESS THAN 2 / 10 (WORST)
- QUAD & HAM STRENGTH  $\geq$  80% NORMAL;  $\geq$  50% H/Q RATIO FOR FEMALES
- AT LEAST 3 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 (SQUATS, DEADLIFTS, & OLYMPIC LIFTING)**
- **BIODEX 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**
- **UNPREDICTABLE CUTTING AGILITY & CONTACT DRILLS**

## **CRITERIA FOR RETURN TO PLAY**

- **PAIN LESS THAN 2 / 10 (WORST)**
- **> 75/100 ON ACL-RSI SURVEY**
- **QUAD & HAM STRENGTH  $\geq$  90% NORMAL;  $\geq$  60% H/Q RATIO FOR FEMALES**
- **90% NORMAL ON SINGLE-LEG HOP TESTS**
- **95% NORMAL FIGURE OF 8, 5-10-5 PRO-AGILITY, & S-L VERTICAL JUMP**
- **MD APPROVAL**