

Quad/Patellar Tendon Protocol

PHASE 1 - ACUTE (0-6 Weeks)

PHASE GOALS: PROTECT REPAIR, RESTORE AMBULATION & ADL STATUS

RANGE OF MOTION

0-2 WEEKS - FULL EXTENSION, PROGRESS FLEXION TO 30 DEG

2-4 WEEKS - PROGRESS FLEXION TO 60 DEG

4-6 WEEKS - PROGRESS FLEXION TO 90 DEG

WEIGHT BEARING

0-6 WEEKS - WEIGHT BEARING AS TOLERATED (IN FULL EXTENSION)

6+ WEEKS - FULL WEIGHTBEARING (BRACE UNLOCKED)

BRACE & CRUTCH USE

0-6 WEEKS - LOCKED IN FULL EXTENSION

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

STRENGTHENING & CONDITIONING

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

4-6 WEEKS - SINGLE LEG BALANCE & CONTINUE ABOVE

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**
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- **> 20 SEC OF SINGLE LEG BALANCE (BESS)**
 - **SYMMETRICAL GAIT WITHOUT A LIMP**

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PHASE 2 - STRENGTH (6-16 Weeks)

PHASE GOALS: IMPROVE STRENGTH & INITIATE JOGGING PROGRAM

RANGE OF MOTION

6-8 WEEKS - PROGRESS FLEXION TO 120 DEG

8+ WEEKS - PROGRESS FLEXION TO FULL

STRENGTHENING

**6-8 WEEKS - MINI-SQUATS, SHORT ARC QUADS, LIGHT LEG PRESS
PARTIAL RANGE, CORE EXERCISES (V-UPS, BRIDGING)**

**8-12 WEEKS - SQUAT PROGRESSION (BODYWEIGHT SQUATS TO
WEIGHTED SQUATS), LONG ARC QUAD (NO RESISTANCE)**

12-16 WEEKS - SINGLE LEG SQUATS, BARBELL SQUATS & DEADLIFTS

***NO RESISTED OPEN CHAIN QUAD STRENGTHENING FOR 12 WEEKS**

CONDITIONING

**BIKING *INITIATE AT 110 DEGREES FLEXION, ELLIPTICAL & ROWING
MACHINE, INITIATE JOGGING PROGRAM AT 16 WEEKS**

CRITERIA FOR JOGGING

- **AT LEAST 16 WEEKS POST-SURGERY**
- **PAIN LESS THAN 3 / 10 (WORST)**

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PHASE 3 - AGILITY (16-24 Weeks)

PHASE GOALS: INTRODUCE DYNAMIC & POWER MOVEMENTS

STRENGTHENING

16+ WEEKS - GYM STRENGTHENING (SQUATS, DEADLIFTS), CORE EXERCISES (MOUNTAIN CLIMBERS, PLANKS, V-UPS)

20+ WEEKS - OLYMPIC LIFTING

CONDITIONING

BIKING, ELLIPTICAL, JOGGING, SWIMMING

PLYOMETRICS & LIGHT AGILITY

16-20 WEEKS - LADDER DRILLS, DOUBLE LEG HOPS, 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 ROUTINE (SQUATS, DEADLIFTS, OLYMPIC LIFTING)

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)**
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- **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**