

PHASE I: Generally 0 - 6 weeks post-op	
PHASE I GOALS:	Protect surgical repair ROM: full knee extension, 90° knee flexion
PRECAUTIONS:	*Wear brace at all times (even while sleeping)*
CRUTCHES/BRACE:	Crutch and brace use as follows: <ul style="list-style-type: none"> ○ Wks 1-2: touch wgt bearing @ 0-10% body wgt with brace locked at 0° extension ○ Wks 3-4: partial wgt bearing @ 10-25% body wgt with brace set at 0-30° ○ Wks 5-6: partial wgt bearing @ 25-50% body wgt with brace set at 0-60°
WOUND:	Post-op dressing remains intact until post-op day #2 (~48 hours after surgery) May begin showering after post-op day #2 (no need to cover incision site) *Do NOT submerge knee in tub or pool for 4 weeks* Bilateral compression stockings for 3-7 days: unilateral use thereafter as needed Suture/staple removal @ 10-14 days per Ortho/PT
REHABILITATION:	Frequent use of cryocuff and/or ice with lower extremity elevated Begin patellar mobilizations (10 reps each direction TID) after suture/staple removal Begin scar massage after incision site sloughs/scar is formed
~Weeks 1-2	Calf pumping w/ tubing Heel slides - assisted as needed from 0-30° Static quad sets (with estim until patient able to do 10 SLRs without extension lag) Supine passive extension with towel under heel Gentle hamstring stretching SLRs: All directions - may add light weight when pain free
~Weeks 3-4	Heel slides - assisted as needed from 0-60° Stationary bike for ROM – (within limitations of ROM) Lower extremity stretching: (HS, hip flexor, IT band, calf) Heel raise progression: begin bilateral heel raises - progress to unilateral UBE and upper body weight training
~Weeks 5-6	Heel slides - assisted as needed from 0-90° SAQs with light weight as tolerated Double leg mini-squats - progress to single leg Gait training (cone walking, marching, retrowalking, cariocas, shuffles, etc.) Forward, lateral, and retro step-ups (start with 2", progress as tolerated) Leg press & hamstring curls 0-45° (bilaterally with light weights) Beginning level pool exercises (i.e., walking in chest deep water, pool jogging)
FOLLOW-UP:	Physical Therapy: Weekly; Ortho: ~6 weeks post-op; Supervised rehab: 2-3 x per week
DOCUMENTATION:	Precautions, pain level, medications and modalities Observation: (incision sites) - Signs/symptoms of infection? Site healing well? Effusion? Neurovascular status: Distal pulses, motor and sensation intact? Presence of calf pain? Knee ROM, quadriceps function, & gait

PHASE II: Generally 7-12 weeks post-op	
PHASE II GOALS:	Full knee ROM and minimal or no effusion ≥ 80% quadriceps and hamstring strength compared to the uninvolved side Hop without pain using good form
PRECAUTIONS:	* NO running until 3 months post-op*
CRUTCHES/BRACE:	Wean from ROM brace & crutches when gait is normal and 120° knee flexion is achieved Transition into patella stabilizer brace
REHABILITATION:	Continue phase I exercises as needed Progress to the following exercises and increase intensity gradually when patient is ready (i.e., no increase in knee pain or effusion since the previous exercise session) *Note: all strengthening should be done with the brace on, starting with low weights, high repetitions, and in a painless ROM*
~7-8 weeks	Stationary biking for conditioning General LE stretching (calf, HS, HF, IT band, hip adductors) Progressive standing balance exercises (body blade, plyoball, platform training, etc.) (progress in duration, intensity, double leg to single leg, etc.) Progressive strengthening (calf press, leg press, squats (0-45°), HS curls, hip abd/add) (first set: 30 repetitions, then 1 additional set at the same weight to muscle failure)
~9-10 weeks	Beginning level pool exercises - primarily sagittal plane exercises (No "whip" kicking) Elliptical – add gradually with stationary bike for conditioning Progressive pool program as tolerated
~11-12 weeks	Stairmaster – add gradually with bike/elliptical for conditioning Progressive strengthening (calf press, leg press, squats (0-45°), HS curls, hip abd/add) (first set: 20 repetitions, then 2 additional sets at the same weight to muscle failure) Progressive functional training (2 legged plyometrics, jump roping, etc.)
FOLLOW-UP:	PT: Bimonthly; Ortho: ~12 weeks post-op; Supervised rehabilitation: 2-3 x per week as needed
DOCUMENTATION:	Precautions, pain level, medications, modalities Effusion Knee ROM & quadriceps function Gait

PHASE III: Generally 4-6 months post-op

PHASE III GOALS: Jog at own pace and distance without pain
Strength return of ~90% for quadriceps and hamstring compared to uninvolved side

PRECAUTIONS: ***NO** participation in sports until ~8-9 months post-op*

BRACE: Patella stabilizing brace (as needed per PT/ortho)

REHABILITATION: Continue other phase II exercises as needed
Progress in duration and intensity of exercise only if there is no increase in knee pain or effusion since the previous exercise session.
Warm-up: 5-10 minutes (bike, elliptical, stairmaster)
General LE stretching: 5-10 minutes (calf, HS, quads, HF, hip adductors)
Progressive jogging program (increase time and/or distance no more than 10-20% per wk)
Progressive strengthening (calf press, leg press, squats (0-45°), HS curls, hip abd/add) (first set: 10 repetitions, then 2 additional sets at the same weight to muscle failure)
Progressive balance training as needed
Progressive functional training: Begin at 25-50% intensity and progress gradually (jumping, hopping, directional jogging, cariocas, shuffles, etc.)

FOLLOW-UP: PT: Monthly; Ortho: ~6 months post-op;
Supervised rehab: 1-2 x per week as needed

DOCUMENTATION: Pain level & medications
Effusion
Knee ROM & quadriceps function
Hop for distance
Isokinetic testing at 6 months post-op

MISCELLANEOUS: After 6 months post-op: Exercises in phase III are continued, gradually increasing intensity & duration as tolerated.
The recommendation is to wait until 9-12 months post-op to return to contact/collision sports. This time period may be adjusted slightly by the surgeon and therapist according to patient progress.