



# Travis C. Burns, MD

Sports Medicine and Shoulder Reconstruction  
Arthroscopic Shoulder, Hip, and Knee Surgery

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## MENISCAL ALLOGRAFT TRANSPLANT

### General Guidelines

- Immediate range of motion 0-90 degrees for 6 weeks
- Crutches for 6 weeks partial weight bearing in full extension
- Long leg knee brace for 8 weeks

PHASE I:	Generally 0 - 6 weeks post-op
<b>PHASE I GOALS:</b>	Protect surgical repair ROM: full knee extension, 90° knee flexion Regain adequate quadriceps control
<b>PRECAUTIONS:</b>	*Wear brace at all times (even while sleeping)* * <b>NO</b> bending knee with load applied (i.e., squat, leg press, etc.) (Note: bending knee & partial weight bearing are allowed, <u>BUT</u> not at the same time)
<b>CRUTCHES:</b>	Begin with touch weight-bearing: progress gradually when wearing brace locked at 0° <ul style="list-style-type: none"><li>○ Wks 1-2: Partial weight-bearing @ 0-25% body weight</li><li>○ Wks 3-4: Partial weight-bearing @ 25-50% body weight</li><li>○ Wks 5-6: Partial weight-bearing @ 50-75% body weight</li></ul>
<b>BRACE:</b>	Locked at 0° extension for 6 weeks
<b>WOUND:</b>	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) * <b>Do NOT</b> submerge knee in tub or pool for 4 weeks* Bilateral compression stockings for 7-10 days: unilateral use thereafter as needed Suture/staple removal @ 7-10 days per Ortho/P.T.
<b>REHABILITATION:</b>	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 Begin with the first 6 exercises below and add others gradually as tolerated
~Weeks 1-2	Calf pumping with tubing Heel slides - assisted as needed: within the limits of 0-90° Static quad sets (with estim until patient able to do 10 SLRs without extension lag) SLRs (in brace): All directions - may add light weight when pain free Supine passive extension with towel under heel Gentle HS stretching

- ~Weeks 3-4 Short arc quads - may add light weights as tolerated  
Seated ankle disk training  
Seated bilateral calf raises - progress to standing bilateral calf raises  
UBE and/or well leg cycle
- ~Weeks 5-6 Hamstring Curls - light weight in a painless ROM  
Beginning level pool exercises: only gait training & deep water jogging (No "whip" kicking)

**FOLLOW-UP:** Physical Therapy: Weekly; Ortho: ~6 weeks post-op;  
Supervised rehabilitation: 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

**PHASE II:** Generally 7-12 weeks post-op

**PHASE II GOALS:** Normal gait and stair ambulation  
Full Knee ROM

**PRECAUTIONS:** \*Continue to wear brace at all times (except while sleeping)\*  
\***NO** jogging/running until 3 months post-op\*

**CRUTCHES:** Progress gradually to full weight-bearing during weeks 7-8 post-op

**BRACE:** Open to full ROM

**REHABILITATION:** \*Continue phase I exercises as needed\*  
Progress to the following exercises and increase intensity gradually as 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 bike for conditioning - begin with 5-10 minutes and progress gradually  
Gait training (cone walking, marching, retrowalking, exercise band, etc.)  
Progressive strengthening (calf press, leg press, squats (0-45°), HS curls)  
(first set: 30 repetitions, then 1 additional sets at the same weight to muscle failure)  
Stepups

~9-10 weeks General LE stretching (calf, HS, quads, HF, 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: 20 repetitions, then 2 additional sets at the same weight to muscle

~11-12 weeks failure)  
Along with stationary bike, gradually add elliptical and/or stairmaster for conditioning  
Progressive pool program as tolerated

**FOLLOW-UP:** PT: Bimonthly; Ortho: ~12 weeks post-op;  
Supervised rehabilitation: 2-3 x per week as needed

**DOCUMENTATION:** Precautions  
Pain level - medications and 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  
≥ 90% quadriceps and hamstring strength compared to the uninvolved side  
≥ 90% hop for distance compared to the uninvolved side

**PRECAUTIONS:** **NO** participation in contact/collision sports or military schools

**BRACE:** None required

**REHABILITATION:** \*Continue phase II exercises as needed\*  
Progress in duration and intensity of exercise only if there is no increase in knee pain  
or

~13-16 weeks      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 functional training (2 legged plyometrics, jump roping, etc.)

Progressive strengthening (calf press, leg press, squats (0-60°), 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

~17-26 weeks      Jogging on treadmill: start with 5 minutes per session. Do not exceed 20 minutes per session or 60 minutes per week until 4 months post-op.

Progressive jogging program (increase time and/or distance no more than 10-20% per wk)

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 and modalities  
Effusion  
Knee ROM & quadriceps function  
Hop for distance  
Isokinetic testing at 6 months post-op

**MISCELLANEOUS:** **NO** return to contact/collision sports or military schools (i.e., airborne) until ~9 months post-op per PT/ortho

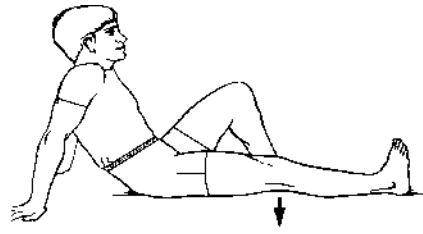
After 6 months post-op: Exercises in phase III are continued, gradually increasing intensity

& duration as tolerated with the goal of full return to activity @ ~9 months post-op.

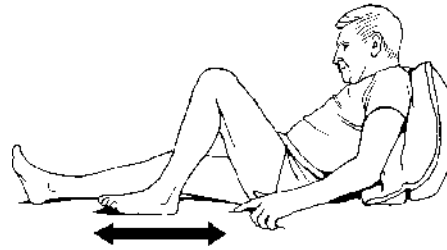
## Knee Post Op Phase 1

Perform exercises below frequently: 30 reps 3-5x a day

**Quad Isometrics**



**Heel Slides**



**Active Assisted Motion**



**Ice Position 15  
minutes 2-3 x per day**

