



Indiana University Health

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Sports Medicine and Arthroscopic Surgery
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Reconstruction (Autograft or Allograft) +/- Meniscus Repair

General Post Op Instructions

Wound Care	✓ Dressings can be removed 2 days after surgery, or they can be removed at the first physical therapy appointment ✓ If desired, incisions may be covered with simple dressings (band-aids)
Swelling	→ Swelling and bruising are to be expected after a surgical procedure
Ice and Elevate	✓ Ice 20 minutes on 20 minutes off, several times a day to help with swelling ✓ Do not place ice or cold back directly onto the skin ✓ Elevate the limb above the heart when able
Showering	→ Do not soak incisions in water until after stitches are removed → You may begin to shower 2 days after surgery after dressings are removed <ul style="list-style-type: none">▪ Allow soapy water to run over the incision but do not scrub▪ Dry, apply band-aids if needed
Driving	✓ Dr. Call does not release people to drive at a specific date or week post op ✓ It is unlawful to drive under the influence of opioid (strong pain) medications ✓ Must be able to safely apply the brakes before returning to drive ✓ Driving in a brace/sling/boot is not recommended

Weight Bearing Restrictions and Brace Use

	ACL Reconstruction	ACL Reconstruction <u>AND</u> Meniscus Repair
Week 1-2	✓ WBAT with crutches ✓ Brace locked in extension for ambulation and sleep	✓ Flatfoot Weight Bearing (only leg weight on the ground) with crutches ✓ Brace locked in extension for ambulation and sleep
Weeks 3-4	✓ WBAT without crutches (if good quad control) ✓ Brace unlocked, unless quad control prohibits	✓ Flatfoot Weight Bearing (only leg weight on the ground) with crutches ✓ Brace locked in extension for ambulation and sleep unlock brace to 90° for sitting
Weeks 5	✓ Discontinue brace if <ul style="list-style-type: none">1. Strong quad strength2. Pain free WB and minimal gait deviation3. Minimal effusion4. Full extension	✓ PWB with crutches, progress to FWB ✓ Brace unlocked ✓ Wean off crutches when good quad control is reached
Week 6 +		✓ WBAT when little to no effusion, good SLR with no quad lag & absent pain at meniscus repair site ✓ Discontinue brace at home, use until week 8 if needed



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Immediate Post Operative Phase (up to week 4)

Overall Goals	<ul style="list-style-type: none">✓ Restore ROM, minimize pain, and decrease effusion with cryotherapy/compression✓ Educate on home exercise program and proper gait patterns✓ Improve neuromuscular control
Cautions	<ul style="list-style-type: none">→ Avoid weighted open chain knee extension exercises $> 45^\circ$ for 8 weeks→ If meniscus was repaired avoid closed kinetic chain exercises $> 90^\circ$ for 8 weeks→ No need to perform ligamentous stress testing of reconstructions
Range of Motion	<ul style="list-style-type: none">✓ Recover patellar mobility in all four directions✓ Achieve full extension by 2 weeks, use prone or bag hangs✓ Aim for symmetrical ROM in flexion, $> 115^\circ$ by end of week 4 (if allowed)
Therapeutic Suggestions	<ul style="list-style-type: none">→ Teach home exercise program (HEP)→ Ambulate with appropriate gait pattern, emphasis on quad activation→ Quad isometrics including 4 way SLR→ Termianl knee extensions into physioball or by week 2-3 Total Gym (level 1-3; 0-45 degree knee flexion double leg)→ Standing weight shifts forward/lateral, Standing mini squats, BLE leg press→ TKE; weighted bag hangs, prone hangs as needed to increase extension (with up to 10 lbs)→ Modalities: may use ultrasound, NMES, manuals, BFR, aqua therapy after week 3→ Stationary bike at appropriate seat height (no elliptical)
Progression Ready to Next Phase	<ul style="list-style-type: none">✓ 0-120° of motion✓ Minimal effusion✓ Strength: appropriate quad activation, able to perform straight leg raise without fatigue
<i>If not all goals are met, patient may progress to the next phase with intervention plan in place to address deficiencies</i>	

Intermediate Rehabilitation Phase (Weeks 5 – 8)

Overall Goals	<ul style="list-style-type: none">✓ Normalize gait pattern, improve lower extremity strength symmetry while avoiding compensatory movement patterns (such as valgus knee collapse or hip drop)✓ Advance strengthening
Cautions	<ul style="list-style-type: none">→ Start open chain knee extension exercises from 90-45° (no weight $> 45^\circ$ for 8 weeks)→ If meniscus was repaired avoid closed kinetic chain exercises $> 90^\circ$ for 8 weeks
Range of Motion	<ul style="list-style-type: none">✓ Maintain/improve patellar mobility in all four directions✓ Maintain full extension, improve ROM in flexion $> 120^\circ$



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Therapeutic Suggestions

- Ambulate with appropriate gait pattern
- Begin open chain long arc quadricep exercises without resistance
- Continue quad exercise progression including isometrics and 4 way SLR
- Hamstring curls, leg press (progress to single leg)
- Single leg balance while improving gluteal stability
- Core strengthening

Progression ✓ 0 – >120° of motion, mobile patella

Ready to ✓ Minimal effusion

Next Phase ✓ Strength: appropriate quad activation, good lower extremity neuromuscular control

Advance Strengthening Phase (Weeks 9 – 12)

Overall Goals ✓ Advance lower extremity strength symmetry while avoiding compensatory movement patterns

Cautions → Counsel on avoiding too rapid return to activities

Range of Motion ✓ Maintain knee and patella ROM

Therapeutic Suggestions

- Ambulate with appropriate gait pattern
- Begin open chain long arc quadricep exercises without resistance
- Continue quad exercise progression including isometrics and 4 way SLR
- Hamstring curls, leg press (progress to single leg)
- TKEs if needed
- Can add pulley weights or therabands
- Single leg balance while improving gluteal stability
- Stationary bike at appropriate seat height, elliptical can start at end of week 8
- May add side lunges

Progression ✓ Quad and hamstring muscle strength >/= 80% of contralateral limb

Ready to ✓ Shows proper lower extremity mechanics

Next Phase



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Late Rehabilitation and Strengthening Phase (Week 13 – 24)

Overall Goals	✓ Encourage independence with home exercises
Cautions	→ Counsel on avoiding too rapid progression to activities → No cutting or pivoting activities until 7 months post op
Range of Motion	✓ Maintain knee and patella ROM
Therapeutic Suggestions	→ Plyometrics <ul style="list-style-type: none">▪ Examples: single leg hops, box jumps, double leg hops on unstable surfaces→ Jogging and flutter kick (swimming) around week 16 + if patient is ready→ Ladder drills→ Core and trunk strengthening
Progression Ready to Agility Training	✓ Tolerates jogging ✓ Land with good control and correct form on mat jumps ✓ MMT at least 5/5, ROM equal to uninvolved side or at least 0-125 ✓ Normal gait pattern at least 20 minutes without symptoms ✓ Leg Press Test/Reach Test/Lateral Step Test within 75-80% of contralateral LE ✓ No pain, crepitus, edema or giving way
Return to Sports	✓ Clearance by surgeon (usually month 12 post op) ✓ Completion of running and agility/plyometric program without symptoms with good form ✓ Quadriceps strength 85-90 % ✓ Quad torque to body weight ratio: <ol style="list-style-type: none">1. Males: @180°/sec 65-75%2. Females: @180°/sec 50-60% ✓ Hamstring strength 100% for patellar tendon graft, at least 85% for hamstring graft ✓ Hamstring to quadriceps ratio is 65% ✓ Good balance and proprioception ✓ Functional tests (single leg hop for distance, single-leg triple crossover hop, 6 meter timed hop) is 85% compared to opposite LE ✓ KT test <3mm laxity compared to non-involved side ✓ Vertical Jump 85% ✓ Leg Press 85% ✓ Lateral shuttle – between 3-meter line, timed for 10 reps (5 in each direction); look for knee control, knee position and or compensation