ORTHOPAEDIC MEDICAL GROUP OF TAMPA BAY

Christopher T. Donaldson, MD
813.684.BONE (2663)

www.omgtb.com

Post-op PATIENT Instructions: ACL RECONSTRUCTION

Dressing: A dressing has been applied to your knee to absorb any fluid/blood. A small amount of blood on the dressing is expected. Leaving the steri-strips on the skin, replace the covering gauze dressing daily with new dry, sterile gauze (obtained from your pharmacy). Unless directed by your surgeon, **no salves, balms, or ointments (even antibiotic ointments) to the incisions.** Soreness and bruising is expected for several days afterward.

Showering (No bathtub): is permitted 72 hours after surgery with the incisions covered. After showering, gently dry the incision and apply a new dry dressing. ***Do NOT soak/submerge the incisions. No swimming/hot-tubs until cleared by your surgeon.***

Ice: Ice is a powerful anti-inflammatory. Icepacks/wraps will help to reduce swelling and pain. Use liberally (20-30 min./session), but remember to protect the skin from direct contact (and frostbite).

Activity: Crutches may be needed for the first several days after surgery. Unless specified otherwise you may bear **full weight** on your leg immediately. Foot and ankle motion (foot pumps) are encouraged and will help to reduce your chance of a blood clot. Additionally, tightening the thigh muscle and straight leg raises will assist your thigh muscle in returning its function faster. Bending the knee as soon as you are comfortable (unless otherwise restricted) is also encouraged. However, **no driving until permission is given by your surgeon.**

Pain: A nerve block has been performed for immediate post-op pain control by the anesthesiologist. It typically "wears off" at about 8-12 hrs. following surgery. A narcotic (taken every 3-4hrs as needed for breakthrough pain) is given for your pain control. **Begin taking these pain medications when you BEGIN experiencing pain!** These meds can take 30-45 minutes to start "working". You do not want to play "catch-up" by letting your pain get out of control. Nausea, drowsiness, and constipation are common side effects of narcotics. Adequate fluid intake and a stool softener obtained over the counter from your local pharmacy is recommended to minimize constipation. Call the office if you are unable to tolerate your medication.

Precautions: Call the office **(813) 684-2663** if you develop: temperatures >101°F, shortness of breath, chest pain, uncontrolled pain, marked redness/hives, persistent drainage, new onset numbness, significant incisional/calf swelling, or any other concerns.

Post-operative Visit/Appointment:

- ***Call (813) 684-2663 today to make a post-operative appointment to see your surgeon 10-14 days following your surgery.***

Special Instructions: (Additionally, follow any indicated instructions below.)

☒ **Physical therapy:** ☒ per attached prescription; to be scheduled as soon as able

☒ **Weightbearing (operative leg):** ☒ as tolerated

□ **Brace:** locked in full extension when weightbearing; ok to unlock to 90˚ flexion when sitting

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PT/OT PRESCRIPTION:

_____
(PATIENT NAME)

Diagnosis: s/p LEFT / RIGHT ACL Reconstruction_____

Graft:_____

***MD Orders for the Therapist*:**

- Physical Therapy Prescription: 2-3 times per week x 6 weeks
- Follow this protocol *without substitution*. Contact my office with any questions.

_____
Christopher T. Donaldson, MD

REHABILITATION PRECAUTIONS:

- Weight Bearing as tolerated when patient is without antalgic gait
- No resistive hamstring exercises for 8 weeks with hamstring autograft
- Delay protocol by two weeks if meniscal repair perform per physician
- Isotonic Strengthening
    - 40-90 degrees open-chained to avoid patellofemoral irritation
    - < 90 degrees closed-chained to avoid patellofemoral irritation

- ***Progression is time and criterion-based, dependent on soft tissue healing, patient demographics, and clinician evaluation***

WEEKS: 0-2

- **ROM**
    - Begin active-assisted ROM (no forced flexion beyond 90º with meniscal repairs)
        - No aggressive towel stretching with hamstring autograft
    - Patellar mobilization
    - Edema control
- **Strengthening**
    - Neuromuscular re-ed with stim and/or biofeedback if less then good quad set
    - Quad Sets
    - Flexion and abduction SLR, emphasis on reducing extensor lag
        - Relax quad between reps to improve quality of quad contraction
    - Partial weight bearing LE shifts with crutches per tolerance
- **Goals to Progress to Next Phase**
    1. Good quad set
    2. ROM 0-90 degrees
    3. 20 SLR with minimal to no extensor lag
    4. Minimal to no edema

WEEKS: 2-4

- **ROM**
    - Begin ROM progression from active-assisted to active (no forced flexion beyond 90º with meniscal repairs)
        - Light towel stretching with hamstring autograft

- Patellar mobilization
- Edema control
- Bike: Begin with ½ and progress to full revs per ROM precautions

- **Strengthening**
  - Neuromuscular re-ed with stim and/or biofeedback if warranted
  - Single leg balance: progress to eyes closed
  - Single leg balance with contralateral leg multidirectional hip (Steamboats)
  - SLR (multi-directional) without extensor lag
  - Heel/toe raises
  - Shuttle
    - PWB bilateral to single-leg squats per tolerance and good mechanics
- **Goals to Progress to Next Phase**
  1. No antalgic gait without use of assistive devise
  2. Good quad set
  3. Able to stand on single-leg with moderate-good balance
  4. No exacerbation with PWB strengthening

WEEK: 4-6

- **ROM**
  - Continue as before (no forces flexion beyond 90º)
  - Exercise bike full revolutions for ROM and endurance
- **Strength**
  - Multi-angle straight leg raises
  - Resisted side stepping
  - Step-ups progressed to step downs (heel touch)
  - Lunges in protected range
  - Progress PWB (shuttle, aquatics, Total Gym, etc) strengthening – no jogging or single-leg plyos
  - Mini-Squats on BOSU with UE assist if needed
  - Gait training if antalgic
  - Begin trunk and lumbosacral strengthening
- **Goals to Progress to Next Phase**
  1. Normal quad set and gait
  2. AAROM 0-120º
  3. No reactive effusion
  4. Completion of exercises without exacerbation of symptoms
  5. Complete reciprocal stair climbing

WEEK: 6-8

- **ROM**
  - Continued with emphasis on terminal extension and pain-free flexion
  - Exercise bike for endurance
- **Strength**
  - Progress WB strengthening/stability/balance/proprioception exercise
    - Lunges, shuttle, steamboats, side-stepping, leg press, step up/down, etc
  - Begin sub-maximal leg extensions in protected range (see precautions above)
  - Step downs (provide verbal and visual feedback for proper technique)
    - Begin with bilateral and progress to unilateral
    - Begin with 2” and progress step height per mechanics

- No plyometric training
- Begin bilateral shuttle jumping ≤ 50% body weight (shuttle, aquatics, Total Gym, etc)
- Continue to progress lumbosacral strengthening

- **Goals**
  1. Increased strength/stability/proprioception with therapeutic exercise without exacerbation of symptoms
  2. No reactive instability or effusion with WB activity

WEEK: 8-10

- **ROM**
  - Continue with exercise bike and stretching
- **Strength**
  - Initiate isolated hamstring strengthening per tolerance
  - Initiate PWB jogging on shuttle
  - Progress LE and trunk strength and stability exercises
  - Progress step downs from 2-4" height
  - Emphasis on appropriate mechanics/avoid dynamic valgus

WEEK: 10-12

- **ROM**
  - Continue per tolerance and pre-exercise warm-up
- **Strength**
  - Full weight bearing plyometrics
    - Progress from straight-plane to diagonal/rotation exercise
  - Strength progression stable to unstable surface
    - Emphasis on quad, hamstring and trunk dynamic stability
  - Shuttle
    - Rotational and single leg jumping
  - Initiate walk-jog progression
    - Criteria to initiate jogging
      - ≥ 7 /10 on #10 IKDC Questionnaire (**Appendix A**)
      - Complete single leg hop-downs without medial/lateral knee displacement
      - Normalized ROM
      - Audible rhythmic strike patterns and no gross visual antalgia
- **Goals to Progress to Next Phase**
  1. ≥ 7 /10 on #10 IKDC Questionnaire - **Appendix A**
  2. Complete plyometric/jogging activity without pain or dynamic instability
  3. No reactive effusion
  4. ROM 0-135 degrees

  - Begin agility exercises between 50-75% (utilize visual feedback to improve mechanics)
    - Side shuffling
    - Hopping
    - Carioca
    - Figure 8
    - Zig-Zag
    - Resisted jogging(Sports Cord) in straight planes, etc

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WEEK: 12-16

- **ROM**
  - Continue per tolerance and pre-exercise warm up
- **Strength**
  - Emphasis on quad, hamstring and trunk dynamic stability
  - Continue jogging progression
  - FWB Plyometrics
    - May begin single leg if no reactive instability
  - Progress agility exercises between 75%-100% (utilize visual feedback to improve mechanics) – See above
- **Goals to Progress to Next Phase**
  - **Functional Test**
    1. Single –leg and 3 cross-over hop test for distance (within 15% of uninvolved limb) – **Appendix A**
  - **Isokinetic Testing***
    1. Side to side symmetry isokinetic peak torque with knee extension and knee flexion (within 15% at 60º/sec, 180º/sec and 300º/sec)
    2. Quad to Hamstring isokinetic strength ratio ≥ 60%
  - Complete sport specific drills without exacerbation of symptoms or reactive instability

MONTHS: 4-6 – Sports Specific Training

- **This sports specific phase should transition from the rehab specialist in the clinic to athletic trainer in the field as appropriate**

- **Strength**
  - Emphasis on quad, hamstring and trunk dynamic stability
  - Continue sport-specific agility exercises (utilize visual feedback to improve mechanics) – See above
    - Progress gradually to 100% per tolerance
    - Emphasis on power and change of direction
    - Utilize both indoor and outdoor surfaces
- **Goals to Return to Sport**
  - Physician clearance at 6 month check up
  - Symmetry with functional testing (3 single-leg cross-over, etc)
  - No reactive effusion or instability with sport-specific activity

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Appendix A

IKDC #10 Question of Function

"How would you rank the function of your knee on the scale of 0 to 10 with 10 being normal, excellent function and 0 being the inability to perform an of your usual daily activities which may include sports?"

FUNCTION PRIOR TO YOUR KNEE INJURY:

Couldn't perform daily activities	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	No limitation in daily activities

CURRENT FUNCTION YOUR KNEE:

Couldn't perform daily activities	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐	8 ☐	9 ☐	10 ☐	No limitation in daily activities

Functional tests

1.) **Single hop for distance**: Have the subject line their heel up with the zero mark of the tape measure, wearing athletic shoes. The subject then hops as far as he can, landing on the same push off leg, for at least 3 seconds. The arms are allowed to move freely during the testing. Allow him to perform 4 practice hops on each leg. Then, have the subject perform 4 trials, recording each distance from the starting point to the back of the heel. Average the distances for each limb.

2.) **Cross-over hop for distance**: This test is set up with a 15cm strip, extending 6 meters. The subject lines his heel up at the zero mark of the tape measure and hops 3 times on one foot, crossing over the center line each time. Each subject should hop as far forward as he can on each hop, but only the total distance hopped is recorded Allow the subject to perform 4 practice rounds before recording. Average the distances for each limb.

Scoring:

- Begin with the uninvolved leg. If using tape to mark distance, remove it before the next trial to minimize visual cues.
- Greater than a 15% difference in average distance between the right and left limbs should be cause for concern, indicating quad, and hamstring weaknesses that should be addressed prior to return to sport.
- If patient fails test, evaluate and implement appropriate strength/stability/balance exercise strategies. Once resolved, test again.