

DR. MATTHEW MURRAY ACL RECONSTRUCTION PROTOCOL

PATELLAR TENDON GRAFT



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Post-Operative Day 1-Week 2 Goals

1. Achieve full extension
2. Achieve at least 90* flexion
3. Be able to perform appropriate quad set selectively
4. Be able to perform straight leg raise with full knee extension and control
5. Rid the knee of swelling
6. Discontinue use of crutches, but brace remains locked in extension during weight bearing

The patient will be seen for physical therapy sometime in the first 2 business days after surgery. During this visit, dressings may be removed and discarded, but please replace with gauze and Tubi-grip or compression wrap. The brace may be removed/unlocked during therapy, but is to remain on and locked in extension when in weight bearing positions outside of therapy. The patient may shower normally after 3 days.

The main goal of this time period is to control swelling around the knee and achieve full extension of the knee through volitional quad activation. Flexion should be at least 90* when the patient sees Dr. Murray for his/her 2-week follow-up. Crutches are generally used for 7-10 days and may be discontinued when appropriate, as long as brace remains locked in extension.

Exercise Suggestions:

Quad sets
Straight leg raises
Heel Slides
Ankle alphabet
Hamstring stretching
Clamshells
Heel raises
Exercise Bike/NuStep
Total Gym/Shuttle (up to 60-90* knee flexion only)
Terminal Knee extension (If using elastic, please place around top side of knee/femur)
Gait training
Ice and Elevation

Post-Operative Weeks 2-6 Goals

1. Achieve full ROM of the knee
2. Normalize gait pattern
3. Achieve full control with eccentric step downs from 4-6''
4. Decrease valgus knee positioning during activities
5. Improve functional strength and equal weight bearing
6. Minimize quad atrophy

After meeting with Dr. Murray during the patient's 2 week follow up, they will present with an unlocked knee brace. They are to wear the brace unlocked for one week following this appointment (3 weeks from surgery), at which point they can remove it.

During this phase, more aggressive ROM and strengthening may occur. It is the expectation that when they follow up with Dr. Murray during their 6-week follow up, they will have full ROM of the knee. Proprioceptive training may begin during this stage. Also, start emphasizing gluteus medius activation to control valgus movements during this stage.

Exercise Suggestions:

Controlled step ups
Eccentric step downs
BOSU push down/step ups
Wall squats to 60-90*
Monster walks
Sidestepping
Lunges
Weighted squats at 4-6 weeks (high repetitions – low weight- to 60*)
Reverse BOSU squats (with possible medicine ball overhead or medicine ball toss)
Dyna-disc squats
PGM Hip abduction

Post-Operative Week 6-12 Goals:

1. Eccentrically control descent from 6'' step
2. Quad girth within 1 cm of each other (5 cm superior from superior pole of patella)
3. Resume normal closed chain exercise routine in weight room
 - Squats started at 60* knee flexion and never beyond 90*
 - Avoid weighted knee extension
4. Advance proprioceptive training
5. May begin elliptical with resistance for cardio
6. Advance quad and gluteus medius strengthening
7. Begin footwork activities (ladder) at basic level if normalized valgus control during week 8

During this phase, emphasis is on continued strengthening of the quad and hip musculature, with particular emphasis on attaining valgus control during activities through activation of gluteus medius. This will be in preparation for running, jumping, and sport specific activities in the next stage. Patients may be able to resume weight room activities around week 6 or sooner if previous stage goals are met. A limitation of weighted squats to 90* will be in effect. They may utilize the elliptical for cardio.

Ladder drills and footwork on a basic level are generally started around week 8, paying particularly close attention to valgus movements (Q-angle) at the knee. Emphasize eccentric control during activities in order to make eventual jump mechanics easier during the next stage.

Exercise Suggestions:

Weighted squats 60-90*
Elliptical
Dumbbell lunges
Thera-band Monster Walks
Thera-band sidestepping
Weighted walk outs
Ladder activities
Reverse bosu medicine ball squats
Reverse bosu medicine ball toss
Reverse bosu weighted ball toss
Reverse bosu squats eyes closed
Dyna disc squats/lunges
Single leg squat (Bulgarian squat)

Post-Operative Month 3-4 Goals:

1. Normalize running mechanics in forward direction
2. Normalize basic hopping mechanics
3. Continue aggressive quad, hip, and core strengthening

During this stage, the fun begins! The patient may meet up with Dr. Murray for a functional exam to get a baseline measure during their 3 month follow up, if they're planning on returning to competitive sports. If everything has gone well up to this point, they will likely be cleared for jogging on a treadmill to start. If a track is available, start with jogging in forward direction only on straightaways, and walking the turns.

Start with basic hopping mechanics during this time as well. Over emphasize hip and knee flexion during landing while continuing to control valgus movements. Double leg hopping can progress to single leg as mechanics improve.

Start basic cutting, planting, and pivoting working on form during month 4. Progress this as form and control improves. Do not perform full speed planting or cutting until all other goals are met. This will generally occur during month 5.

Exercise Suggestions:

Treadmill intervals

Jumping mechanics

-Starting double leg and progress to single leg

Plyometrics

Advanced strengthening

Advance footwork activities

Activities involving planting with proper form and control

Post-Operative Month 5 Goals:

1. Meet all previously established goals
2. Begin sport specific activities
3. If returning to contact sport, introduce basic contact/perturbation during activities

During the last phase, wrap everything up and begin utilizing sport specific training in preparation for clearance from Dr. Murray (generally around 6 months) to return to athletics. If they are a football player, get them on the grass in cleats. If they play volleyball, get the nets set up. Make the drills and activities specific to what they need to accomplish in their particular sport. We will also initiate basic contact during this time from the therapist/trainer only. No teammates or competition.

Post-Operative Month 6:

Under normal surgical circumstances and progression of patient, it would be expected for the patient to be cleared to resume sports, following their release from Dr. Murray at their 6-month follow up.

Post-Operative One Year:

Last follow up appointment with Dr. Murray.

Although there are time frames attached to the goals on this protocol, these are general in nature. Some patients may progress more rapidly, and others more slowly. Use a functional based approach when trying to determine if someone is ready to move to the next stage. Clear communication with Dr. Murray and Ortho San Antonio is necessary if successful patient outcomes are going to occur. We appreciate you working with our patients and feel free to contact us with any questions!