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**QUADRUPLED HAMSTRING (SEMITENDINOSUS AND GRACILIS)  
ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION ACCELERATED  
REHABILITATION PROGRAM**

The following guidelines are to outline the rehabilitation program for the physical therapist and athletic trainer. The protocol is designed to expeditiously and safely return the athlete/injured worker to sports/full functional activity at work by maximizing the patient's time during formal physical therapy.

If the patient is not progressing: please call the office at (262) 656-8297 for recommendations. Please note that the following braces will be used post-operatively for all ACL reconstructions:

- A Bledsoe-type full-length brace for weeks 0-6. In general, for semitendinosus, limitation of motion from 0-90° for the first 4 weeks to unlimited at weeks 4-6.
- After week 6, the patient will be placed in either an off-the shelf or custom short ACL brace.

**Meniscal repair:** If a meniscal repair is performed in conjunction with anterior cruciate reconstruction, the patient is limited to no running or jumping for at least 8 weeks. Additionally, the patient may fully weight bear provided that he is in full extension either with a drop-lock hinge on his range of motion brace or knee immobilizer. At no time is the patient to put flexed weight on the repaired meniscus within the first 6 weeks. The patient is to do no squats for 12 weeks on a repaired meniscus.

**Revision ACL:** Running and jumping is restricted for 6 months with no exceptions. Otherwise, standard ACL reconstruction protocol for hamstring applies.

**AT NO POINT DURING PHYSICAL THERAPY IS THE LEG EXTENSION MACHINE TO BE USED OR SHOULD ANY OPEN CHAIN EXERCISES BE EMPLOYED.**

### **POST OPERATIVE 0-2 WEEKS**

The patient may start active range of motion exercises with no limitations on extension or flexion unless otherwise specified. Please note, it is recommended that the patient achieve up to 90° of flexion in the first 2 weeks.

- Weightbearing as tolerated for all hamstring reconstructions. If a meniscal repair was performed, weightbearing is only permitted with the leg in extension, utilizing either the knee immobilizer or range of motion brace. Please work on the patient's gait and progress to discontinuing the crutches within the first 7-10 days post-operatively.
- Emphasize extension. May initiate prone hang without weights.
- The patient will be utilizing a foam extension block to fully extend the leg 30 minutes, 4 times daily.
- Initiate patellar mobilization. You may change the post-operative dressings if applicable. Teach the patient to do patellar mobilizations, especially superior-inferior. Reapply the post-operative dressing after doing the patellar mobilization exercises. The patient may do patellar mobilizations through the dressings.
- Please change the post-operative dressings using aseptic technique. Do not remove the Steri-Strips. Place bandages over the arthroscopic portals and a 4 X 4 over the medial incision and over the meniscal repair incision site if applicable. Rewrap lightly with a 6" Ace wrap.
- Straight-leg raises without immobilizer
- Electrical stimulation to help decrease swelling and initiate early VMO work.

### **POST-OPERATIVE 2-4 WEEKS**

The patient will have already had his sutures removed within the first 2 weeks.

- Continue the patellar mobilizations, especially superior-inferior. Reinstruct the patient as needed.
- Isometric quadriceps sets, emphasizing the VMO.
- Prone hangs without weights.
- Gravity-assisted knee extensions with patient prone with towel roll proximal to knee.
- Full range of motion with extension to 0° and 90-120° flexion should be achieved at this point.

- Continue electrical stimulation if needed.

### **POST OPERATIVE 4-6 WEEKS**

- Closed-chain quadriceps strengthening to include stationary bike, StairMaster, leg press, step-ups, step-downs, and lunges, if tolerated. If meniscal repair, step-ups and step-downs should not be done until week 6.
- Start hamstrings curls without weights.
- Hamstring sets.
- Partial squats, eccentric or concentric phase only, unless meniscal repair then delay until week 6.
- Gradually increase height of step-ups 2-4” at a time.
- Calf raises and squat rack.
- Functional knee extension with Thera-band.
- Leg press, unilateral and bilateral.
- The injured worker may return to desk work at 1 month post-op with the following restrictions:
  - No prolonged standing.
  - No stooping, squatting, kneeling, bending, crawling or lifting.
  - Limited stair use.

### **POST-OPERATIVE 6-12 WEEKS**

- Continue with progression of all exercises above.
- Begin quarter squats and calf raises in squat rack.
- Increase intensity level of functional progression including plyometrics depending on leg press evaluation and as long as meniscal repair was not performed. Initiate work conditioning for injured workers if ready.
- Unilateral leg press one-leg comparison at 6 weeks. Do 10 repetitions maximum with both operative and non-operative leg. Hold this test to 8 weeks if meniscal repair was performed. If 10-repetition maximum of operative leg is 70% of non-operative leg, than a functional progression includes light jogging, agility drills, lateral shuffles and jumping. The patient may shoot basketballs at this time. Please note, for isolated

anterior cruciate ligament reconstructions, full functional progression back to athletic activities is expected by 12 weeks for injured athletes. If available, KT1000 testing will be done at 1 month, 2 months, and 3 months.

### **POST-OPERATIVE 13 WEEKS+**

Please progress patients to full-functional activities including plyometrics, cutting-type activities, and sports specific exercises. If injured workers, please emphasize job demands. Please note, injured workers will be returned to full duty status pending their physical demands of their job, when they can tolerate kneeling, stooping, squatting, and performing stairs. They may be progressed to more work activities if job modifications are allowed.

Please remember that full meniscal repair requires increased caution for flexion exercises. At no time should the patient be doing any squatting exercises or weightbearing with the knee bent within the first 6 weeks. Progression to partial squats as noted above.