Salina Regional Orthopedic Clinic
Salina Regional Health Center

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Guidelines for Rehabilitation Following ACL Hamstring Autograft/Allograft Reconstruction

INDICATED PROCEDURES

- ACL Reconstruction with Allograft/Autograft
- Meniscus repair

GENERAL GUIDELINES

- May weight bear as tolerated with the brace locked in full extension
- May unlock the brace for non weight bearing range of motion.
- Focus on regaining full extension immediately following surgery, with full extension achieved no later than 2 weeks following surgery. Elevate the foot with pillows during the day and at night to achieve this. In physical therapy utilized quad sets and prone heel hangs to achieve full extension. If unable to achieve full extension by 2 weeks post-op may use 5-10 lbs with prone heel hangs to gain full extension.

GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING

- Patients may begin the following activities at the dates indicated (unless otherwise specified by the physician):
- Bathing/showering without brace after suture removal at 2 weeks post-op
- Sleep knee immobilizer locked in extension for 4 weeks following ACL reconstruction with meniscus repair.
- Driving: 1 weeks for automatic cars, left leg surgery (after narcotic pain meds discontinued)
- 4 weeks for standard cars, right leg surgery (after narcotic pain meds discontinued)
- Weight bearing as tolerated immediately post-op with brace locked in full extension

PHYSICAL THERAPY ATTENDANCE

- The following is an approximate schedule for supervised physical therapy visits:
    - Phase I (0 - 4 Weeks): 1-2 visit/week
    - Phase II (4 - 8 Weeks): 2 - 3 visits/week
    - Phase III (8 weeks - 4 Months): 2 visits/week
    - Phase IV (4 months - 6 / 9 months): Discharge after completion of appropriate functional progression

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REHABILITATION PROGRESSION

- The following is a general guideline for progression of rehabilitation following ACL allograft reconstruction. Progression through each phase should take into account patient status (e.g. healing, function) and physician advisement. Please consult the physician if there is any uncertainty concerning advancement of a patient to the next phase of rehabilitation.

PHASE I (Weeks 0 - 4)

Below is outlined the protocol for isolated ACL reconstruction. See above for alteration to this protocol when inside-out meniscus repair is performed as well.

Goals:

- Protect graft fixation
- Minimize effects of immobilization
- Control inflammation
- Full extension range of motion
- Educate patient on rehabilitation progression

Brace:

- 0 – 4/6 week:Knee immobilizer in full extension for ambulation and sleeping

Weight-Bearing Status:

- **Weight bearing as tolerated locked in extension**

Therapeutic Exercises:

- Heel slides
- Calf pumps
- Quad sets, hamstring sets (consider NMES for poor quad set)
- Patellar mobilization
- Non-weight-bearing gastroc/soles, hamstring stretches
- SLR, all planes, with brace in full extension until quadriceps strength in sufficient to prevent extension lag
- Quadriceps isometrics at 60° and 90°. Avoid active terminal extension (30-0°) for the first 6 weeks post-operatively

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PHASE II (Weeks 4 - 8)

Criteria for advancement to Phase II:

- Good quad set, SLR without extension lag
- Approximately 110˚ of flexion
- Full extension
- No signs of active inflammation

Goals:

- Initiate closed kinetic chain exercises
- Restore normal gait
- Protect graft fixation

Brace/Weight-Bearing Status:

- Patient must exhibit non-antalgic gait pattern. Consider using single crutch or cane until gait is normalized.

Therapeutic Exercises:

- Wall slides 0-45˚, progressing to mini-squats
- 4-way hip
- Stationary bike (begin with high seat, low tension to promote ROM.
- Progress to single leg)
- Closed chain terminal extension with resistive tubing or weight machine
- Toe raises
- Balance exercises (e.g. single-leg balance, KAT)
- Hamstring curls
- Aquatic therapy with emphasis on normalization of gait
- Continue hamstring stretches. Progress to weight-bearing gastroc/soleus stretches.

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PHASE III (Week 8 - 4 months)

Goals:

- Full range of motion
- Improve strength, endurance and proprioception of the lower extremity to prepare for functional activities
- Avoid over-stressing the graft
- Protect the patellofemoral joint

Therapeutic Exercises:

- May begin use of the elliptical trainer at 8 weeks post-op if minimal swelling at >110° flexion
- May begin jogging at 12 weeks post-op if normal range of motion and no/limited swelling
- Continue and progress previous flexibility and strengthening activities
- Knee extensions 90-45˚and progress to eccentrics
- Advance closed kinetic chain activities (leg press, one-leg mini-squats 0-45˚of flexion, step-ups beginning at 2" and progress to 8", etc.)
- Progress proprioception activities (slide board, use of ball, racquet with balance activities, etc.)
- Progress aquatic program to include pool running, swimming (no breaststroke)

PHASE IV (4 months - 6 / 9 months)

Criteria for advancement to Phase IV:

- Full, pain-free ROM
- No evidence of patellofemoral joint irritation
- Strength and proprioception approximately 70% of uninvolved
- Physician clearance to initiate advanced closed kinetic chain exercises and functional progression

Goals:

- Continue and progress previous flexibility and strengthening activities
- Functional progression including:
- Walk/job progression
- Forward/backward running at ½, ¾ and full speed

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PHASE V (6/9 Months)

Criteria for advancement to Phase V:

- No patellofemoral or soft tissue complaint
- Necessary joint ROM, strength, endurance and proprioception to safely return to work or athletics
- Physician clearance to resume partial or full activity

Goals:

- Initiate cutting and jumping activities
- Completion of appropriate functional progression
- Maintenance of strength, endurance and proprioception
- Patient education with regards to any possible limitations

Therapeutic Exercises:

- Functional progression, including but not limited to:
- Walk/job progression
- Forward/backward running at ½, ¾ and full speed
- Cutting, cross-over carioca, etc.
- Plyometric activities as appropriate to patient's goals
- Sport-specific drills
- Safe, gradual return to sports after successful completion of functional progression
- Maintenance program for strength and endurance