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Sports Medicine
Shoulder, Elbow, Knee Arthroscopy
Shoulder Replacement Surgery

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DISCHARGE INSTRUCTIONS & PHYSICAL THERAPY PROTOCOL: ACL Reconstruction – Allograft With or Without Meniscus Repair

- Recovery after knee surgery entails controlling swelling and discomfort, healing, return of range-of-motion of the knee joint, regaining strength in the muscles around the knee joint, and a gradual return to activities. The following instructions are intended as a guide to help you achieve these individual goals and recover as quickly as possible after your knee surgery.

- COMFORT

  - **Elevation**
    - Elevate your knee and ankle above the level of your heart. The best position is lying down with two pillows lengthwise under your entire leg. This should be done for the first several days after surgery.
  - **Cold Therapy**
    - If you elected to receive the **circulating cooling device**, this can be used continuously for the first 3 days, (while the initial post-op dressing is on). After 3 days, the cooling device should be applied 3 times a day for 20-30 minute intervals.
    - If you elected to receive the **gel wrap**, this may be applied for 20 minutes on, 20 minutes off as needed. You may apply this over the post-op dressing. Once the dressing is removed, be sure to place a barrier (shirt, towel, cloth, etc.) between your skin and the gel wrap.
    - If you elected to use **regular ice**, this may be applied for 20 minutes on, 20 minutes off as needed. You may apply this over the post-op dressing. Once the dressing is removed, be sure to place a barrier (shirt, towel, cloth, etc.) between your skin and the ice.
  - **Medication**
    - **Pain Medication-** Take medications as prescribed, but only as often as necessary. Avoid alcohol and driving if you are taking pain medication.
      - You have been provided a narcotic prescription postoperatively. Use this medication sparingly for moderate to severe pain.
      - **You are allowed two (2) refills of your narcotic prescription if necessary.**
      - When refilling pain medication, weaning down to a lower potency or non-narcotic prescription is recommended as soon as possible.

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- Extra strength Tylenol may be used for mild pain.
- Over the counter anti-inflammatories (Ibuprofen, Aleve, Motrin, etc.) shoulder be **avoided** for the first 4 weeks following surgery.

- **Anti-coagulation medication:** A medication to prevent post-operative blood clots has been prescribed (Aspirin, Lovenox, etc.) This is the only medication that MUST be taken as prescribed until directed to stop by Dr. Forsythe.
- **Nausea Medication –** Zofran (Odansetron) has been prescribed for nausea. You may take this as needed per the prescription instructions.
- **Constipation Medication -** Colace has been prescribed for constipation. Both your pain medication and the anesthesia can cause constipation. Take this as needed.

❖ ACTIVITIES

- **Range-of-Motion** – Move your knee through range of motion as tolerated. This must be done while sitting or lying down.
  - **Note**: If you underwent a meniscal repair, you may have range of motion restrictions.
- **Locking Knee Brace** – The brace is to be worn for up to 4-6 weeks following surgery. It will be locked straight until bone healing and good knee strength have been achieved (usually 5-6 weeks after surgery). At that time your doctor will determine if your leg has enough strength to allow your brace to be unlocked. You may unlock the brace while sitting or driving but lock the brace before standing. Sleep with the brace on and locked straight until directed by Dr. Forsythe.
- **Exercises** – These help prevent complications such as blood clotting in your legs. Point and flex your foot and wiggle your toes. Thigh muscle tightening exercises should begin the day of surgery and should be done for 10 to 15 minutes, 3 times a day, for the first few weeks after surgery.
- **Weightbearing** – You are allowed to put all of your weight on your operative leg using your brace in the **locked straight** position. Do this within the limits of pain. Two crutches should be used until directed to discontinue by Dr. Forsythe.
  - **Note**: If you underwent a meniscus repair (not a debridement), you will NOT be allowed to put full weight on your operative leg for 1 week. You will be allowed to put partial weight on your leg as instructed.
- **Physical Therapy** – **PT is usually started a day after surgery**. You should call the physical therapist of your choice for an appointment as soon as possible after surgery. A prescription for physical therapy, along with physical therapy instructions (included in this packet) must be taken to the therapist at your first visit.

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- **Note**: If you underwent a meniscus repair, or if you have had multiple ACL reconstructions, you may not start PT immediately.

- **Athletic Activities** – Athletic activities, such as swimming, bicycling, jogging, running and stop-and-go sports, **should be avoided** until allowed by your doctor.
- **Return to Work** – Return to work as soon as possible. Your ability to work depends on a number of factors – your level of discomfort and how much demand your job puts on your knees. If you have any questions, please call your doctor.
- **Driving**
  - **Right knee surgery:** Driving is NOT permitted for the first 1-2 weeks following right knee surgery.
  - **Left knee surgery:** Driving is allowed when comfortable AND you are not taking narcotic pain medication.

❖ WOUND CARE

- **Bathing -** Tub bathing, swimming, and soaking of the knee **should be avoided** until allowed by your doctor - Usually 4-6 weeks after your surgery. Keep the dressing on, clean and dry for the first 3 days after surgery.
  - You may shower 3 days after surgery with WATERPROOF band-aids on. Apply new band-aids after showering.
- **Dressings -** Remove the dressing 3 days after surgery. Your stitches will be left in until about 1 week post-op. You may apply band-aids to the small incisions around your knee.

❖ EATING

- Your first few meals, after surgery, should include light, easily digestible foods and plenty of liquids, since some people experience slight nausea as a temporary reaction to anesthesia.

❖ CALL YOUR PHYSICIAN IF:

- Pain in your knee persists or worsens in the first few days after surgery.
- Excessive redness or drainage of cloudy or bloody material from the wounds (Clear red tinted fluid and some mild drainage should be expected). Drainage of any kind 5 days after surgery should be reported to the doctor.
- You have a temperature elevation greater than 101°
- You have pain, swelling or redness in your calf.
- You have numbness or weakness in your leg or foot.

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❖ RETURN TO THE OFFICE

- Your first return to our office will likely be within the first 1-2 weeks after your surgery. You can find your appointment the appointment date and time for the first post-operative visit in this folder.

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REHABILITATION PROGRAM:
Anterior Cruciate Ligament Reconstruction - Allograft

NOTE: The following instructions are intended for your physical therapist and should be brought to your first physical therapy visit.

❖ INTRODUCTION

- The anterior cruciate ligament (ACL) is one of the main stabilizing ligaments of the knee. Loss of this ligament can lead to functional instability during work or sports and can also lead to the development of knee arthrosis. These guidelines were developed for patients after ACL surgery using the bone-patellar tendon autograft.
- The goals of ACL reconstruction are:
  - To provide functional stability to the knee
  - Return the patient to his/her previous level of activity
  - Prevent development of arthrosis
- Modern methods of arthroscopic reconstruction of the ACL can successfully return functional stability to the knee. The most worrisome complication following this surgery is the development of arthrofibrosis with its adherent loss of motion and weakness in the operative extremity.
- The goal of ACL post reconstruction rehabilitation is to return normal motion, strength, and function to the knee while not compromising the integrity of the reconstructed ACL. Total body conditioning should be utilized throughout this protocol.

❖ GENERAL GUIDELINES

- Allograft revascularization is slower than for autografts. Therefore, crutches and brace may be continued for 6 weeks.
- CPM not commonly used
- ACL reconstruction performed with meniscal repair or transplant: follow the ACL protocol with avoidance of open kinetic hamstring strengthening for 6 weeks. Time frames for use of brace and crutches may be extended by the physician
- Supervised physical therapy takes place for 3-9 months.

❖ GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING

- Sleep with brace locked in extension for 4-6 weeks
- Driving: 1 week for automatic cars, left leg surgery, 4-6 weeks for standard cars, or right leg surgery

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- Brace locked in extension until patient has achieved straight leg raise without a lag
- Use of crutches, brace for ambulation for 6 weeks

❖ **PHYSICAL THERAPY ATTENDANCE**
- Phase I (0-6 weeks): 3 visits/week
- Phase II (6-8 weeks): 2-3 visits/week
- Phase III (2-6 months): 2-3 visits/week
- Phase IV, V (6 months +): Discharge after completion

❖ **PHASE I: Immediately postoperatively through approximately week 6**
- **Goals:**
  - Protect graft fixation
  - Minimize effects of immobilization
  - Control inflammation
  - Full extension range of motion
  - Educate patient on rehabilitation progression
  - **ROM as tolerated**
    - **limit to 90 degrees the first 4 weeks if meniscus repair performed**
  - Normalize gait mechanics in pool (if available).
- **Brace:**
  - Post op brace 0-6 weeks
  - 1st week: Locked in full extension for ambulation and sleeping
  - 1-6 weeks: Brace remove for rehab, continue otherwise
  - 6-12 weeks: To be worn in situations where patient may be at risk for fall (crowds, walking on uneven surfaces)
  - After 12 weeks brace is optional
- **Weightbearing Status**
  - Weight bearing as tolerated
  - Toe touch WB if there was a meniscal repair
- **Therapeutic Exercises: {**Reminder: ACL reconstruction performed with meniscal repair or transplant: follow the ACL protocol with avoidance of open kinetic hamstring strengthening for 6 weeks}
  - Initiate active-assisted leg curls; progress to active range of motion when pain free

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- Heel slides
- Quad sets
- Patellar mobilization
- Non-weight bearing gastroc/soleus stretching, begin hamstring stretches at 2 weeks
- SLR, all planes, with brace in full extension until quadriceps strength is sufficient to prevent extension lag. Quadriceps isometrics at 60-degrees and 90-degrees
- Pool after 2-3 weeks (once incisions have healed), to work on underwater treadmill
- At 4-weeks post-op add biking, deep well pool running with aqua vest (if pool available), leg press, quadriceps stretching.
- Partial weight bearing closed chain knee extension 0-45-degrees
- Leg press, pool mini-squat
- Gentle hamstring stretching

❖ **PHASE II: Postoperative weeks 6 to 8**

- **Criteria for advancement to Phase II:**
  - Good quad set, SLR without extension lag
  - Approximately 90° of flexion
  - Full active knee extension in sitting
  - No signs of active inflammation
- **Goals:**
  - Initiate closed kinetic chain exercises
  - Restore normal gait
  - Protect graft fixation
- **Brace/Weightbearing status:**
  - Discontinue use of brace and crutches as allowed by physician when the patient has fullextension and can SLR without extension lag.
  - Patient may exhibit antalgic gait pattern. Consider using single crutch or cane until gait is normalized.
- **Therapeutic Exercises:**
  - Wall slides 0-45-degrees, 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

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- Toe raises
- Balance exercises (e.g. single-leg balance, KAT)
- Hamstring curls
- Aquatic therapy with emphasis on normalization or gait
- Continue hamstring stretches, progress to weight-bearing gastroc/soleus stretches

❖ **PHASE III: Postoperative week 8 to 6 months**

- **Goals:**
  - Full range of motion
  - Improve strength, endurance, proprioception of the lower extremity to prepare for functional activities
  - Avoid overstressing the graft
  - Protect the patellofemoral joint
- **Therapeutic Exercises:**
  - Continue and progress previous flexibility and strengthening activities
  - Stairmaster (begin with short steps, avoid hyperextension), Elliptical
  - Knee extensions 90°-45°, progress to eccentrics
  - Advance closed kinetic chain activities (leg press, one-leg mini squats 0-45° of flexion, step-ups begin at 2" 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)
- **AT 4 MONTHS: May begin supervised jogging**

❖ **PHASE IV: Postoperative months 6 to 9**

- **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
- **Goal:**
  - Progress strength, power, and proprioception to prepare for return to functional activities.

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- **Therapeutic Exercises:**
  - Continue and progress previous flexibility and strengthening activities
  - Functional progression including:
  - Walk/Jog progression
  - Forward, backward running, ½, ¾, full speed

❖ **PHASE V: Postoperative month 9 +**

- **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, proprioception
  - Patient education with regards to any possible limitations
- **Therapeutic Exercises:**
  - Functional progression including, but not limited to:
  - Walk/jog progression, Forward/backward running, ½, ¾, full speed
  - Cutting, crossover, caricoa, etc.
  - Plyometric activities as appropriate to patient's goals
  - Sports-specific drills
  - Safe, gradual return to sports after successful completion of functional progression
  - Maintenance program for strength and endurance
- **Bracing:** Functional brace may be recommended by the physician for use during sports for the first 1-2 years.