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Sports Medicine
Shoulder, Elbow, Knee Arthroscopy
Shoulder Replacement Surgery

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DISCHARGE INSTRUCTIONS & PHYSICAL THERAPY PROTOCOL: PCL Reconstruction – Allograft

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.
    - Extra strength Tylenol may be used for mild pain.

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- 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

- **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 but lock the brace before standing. Sleep with the brace on 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.
- **CPM** – (Continuous Passive Motion Machine) – A Continuous Passive Motion (CPM) machine may be started the day **after** your surgery. This machine will be set at 30°. Motion on the machine should be increased at 10-15° per day or as much as tolerated, to a maximum of 110° in one week. The machine should be used 6 hours per day (i.e. 2 hours in the morning, 2 hours in the afternoon and 2 hours in the evening). Use of the machine will continue for 1-2 weeks, or until maximum flexion of the machine is reached (110°). You will be contacted if you need a CPM.
  - **DO NOT WEAR LEG BRACE OR COOLING DEVICE WHILE USING CPM MACHINE.**
- **Weightbearing** – Initially after surgery for one week post op you are allowed to put partial weight on your operative leg with only your toe touching the ground. Keep your brace locked in a straight position. Walk using two crutches or a walker. You may touch your foot on the floor for balance. Do this within the limits of pain for one week post op. After one week post op, you can then progress to full weightbearing as tolerated in the locked brace.

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- **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.

- **Physical Therapy** – PT is usually started a 1-2 weeks 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.
- **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.

❖ 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 and will be removed at your first visit. You may apply band-aids to the small incisions around your knee. Keep incision sites clean and dry.

❖ 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 post op visit to the office will be within the first 1-2 weeks after your surgery. You can find your appointment for this first post-operative visit in the post op instruction folder.

REHABILITATION PROGRAM:
PCL Reconstruction – Allograft

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

- The intent of this protocol is to provide the clinician with a guideline for the post-operative rehabilitation course of a patient that has undergone a PCL or PCL/ACL reconstruction. It is by no means intended to be a substitute for one's clinical decision-making regarding the progression of a patient's post-operative course based on their exam findings, individual progress, and/or presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

GENERAL GUIDELINES

• No open chain hamstring work.
• Typically, it takes 12 weeks for graft to bone healing time.
• Caution against posterior tibial translation (gravity, muscle action).
• Typically, no CPM.
• PCL with posterolateral corner or LCL repair follows different post-op care (i.e. crutches x 3 months).
• Resistance for hip PRE's should be placed above the knee for hip abduction and adduction; resistance may be placed distally for hip flexion.
• Supervised physical therapy generally takes place for 3-5 months post-operatively.

GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING

Patients may begin the following activities at the dates indicated, unless otherwise specified by the surgeon:
• Bathing/showering without brace (sponge bath only until suture removal)- 1 week post-op.
• Typically patients can return to driving: 6-8 weeks post-op.

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- Typically begin sleeping without brace: 6-8 weeks post-op.
- Full weight-bearing without assistive devices: 6-8 weeks post-op (with surgeon's clearance based on structural integrity of repair). The exception is PCL with posterior lateral corner (PLC) or LCL repair, as above.

REHABILITATION PROGRESSION

PHASE I: Immediately post-operatively to week 4

Goals:
- Protect healing bony and soft tissue structures.
- Minimize the effects of immobilization:
  - Early protected range of motion (protect against posterior tibial sagging).
  - PRE's for quadriceps, hip, and calf with an emphasis on limiting patellofemoral joint compression and posterior tibial translation.
- Patient education for a clear understanding of limitations and expectations of the rehabilitation process, and need for supporting proximal tibia/preventing sag.

Brace:
- 0-1 week: post-op brace locked in full extension at all times.
- At 1 week post-op, brace is unlocked for passive ROM performed by a physical therapist or PT assistant.
- Technique for passive ROM is as follows:
  - Patient supine; therapist maintains anterior pressure on proximal tibia as knee is flexed (force on tibia is from posterior to anterior).
  - For patients with combined PCL/ACL reconstructions, the above technique is modified such that a neutral position of the proximal tibia is maintained as the knee is flexed.
  - It is important to prevent posterior sagging at all times.

Weight-bearing status:
- Toe touch weight-bearing as tolerated with crutches, brace locked in extension for one week post op. Then progress to full weight-bearing in the locked brace.

Special considerations:
- Position pillow under proximal posterior tibia at rest to prevent posterior tibial sag.

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Therapeutic exercises:
- Patellar mobilization.
- Quadriceps sets.
- Straight leg raise (SLR).
- Hip abduction and adduction.
- Ankle pumps.
- Hamstring and calf stretching.
- Calf press with exercise bands, progressing to standing calf raise with full knee extension.
- Standing hip extension from neutral.
- Functional electrical stimulation (as needed for trace to poor quadriceps contraction).

PHASE II: Post-Operative Weeks 4 to 12

Criteria for progression to Phase II:
- Good quadriceps control (good quad set, no lag with SLR).
- Approximately 60 degrees knee flexion.
- Full knee extension.
- No signs of active inflammation.

Goals:
- Increase ROM (particularly flexion).
- Normalize gait.
- Continue to improve quadriceps strength and hamstring flexibility.

Brace:
- 4-6 weeks: Brace unlocked for gait in controlled environment only if quad activation is sufficient (i.e. patient may walk with brace unlocked while attending PT or when at home).
- 6-8 weeks: Brace unlocked for all activities.
- 8 weeks: Brace discontinued, as allowed by surgeon.
    - Note, if PCL or LCL repair, continue brace until cleared by surgeon.

Weight-bearing status:
- 4-8 weeks: FWBAT in brace.
- 6 weeks: May discontinue brace if patient demonstrates:
    - No quadriceps lag with SLR.
    - Full knee extension.
    - Knee flexion 90-100 degrees.
    - Normal gait pattern (May use 1 crutch/cane until gait normalized).

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• If LCL repair, continue crutches for 12 weeks.

Therapeutic Exercises:
• 4-8 weeks:
  o Wall slides/mini-squats (0-45 degrees).
  o Leg press (0-60 degrees).
  o Standing 4-way hip exercise for flexion, extension, abduction, adduction (from neutral, knee fully extended).
  o Ambulation in pool (work on restoration of normal heel-toe gait pattern in chest-deep water).
• 8-12 weeks:
  o Stationary bike (foot placed forward on pedal without use of toe clips to minimize hamstring activity; seat set slightly higher than normal).
  o Closed kinetic chain terminal knee extension using resisted band or weight machine. Note: important to place point of resistance to minimize tibial displacement.
  o Stairmaster.
  o Elliptical trainer.
  o Balance and proprioception exercises.
  o Seated calf raises.
  o Leg press (0-90 degrees).

PHASE III: Post-Operative Months 3 to 9

Criteria for progression to Phase III:
• Full, painfree ROM. (Note: it is not unusual for flexion to be lacking 10-15 degrees for up to 5 months post-op.)
• Normal gait.
• Good to normal quadriceps control.
• No patellofemoral complaints.
• Clearance by surgeon to begin more concentrated closed kinetic chain progression.

Goals:
• Restore any residual loss of motion that may prevent functional progression.
• Progress functionally and prevent patellofemoral irritation.
• Improve functional strength and proprioception using close kinetic chain exercises.
• Continue to maintain quadriceps strength and hamstring flexibility.

Therapeutic exercises:
• Continue closed kinetic chain exercise progression.

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- Treadmill walking.
- Jogging in pool with wet vest or belt.
- Swimming (no breaststroke or "frog kick").

PHASE IV: Post-Operative Month 9 until return to full activity

Criteria for progression to Phase IV:

- Clearance by surgeon to resume full or modified/partial activity (i.e. return to work, recreational, or athletic activity).
- No significant patellofemoral or soft tissue irritation.
- Presence of necessary joint ROM, muscle strength and endurance, and proprioception to safely return to athletic participation.
    - o Full, painfree ROM.
    - o Satisfactory clinical examination.
    - o Quadriceps strength 85% of uninvolved leg.
    - o Functional testing 85% of uninvolved leg.
    - o No change in laxity testing.

Goals:

- Safe and gradual return to work or athletic participation.
    - o This may involve sport-specific training, work hardening, or job restructuring as needed.
    - o Patient demonstrates a clear understanding of their possible limitations.
- Maintenance of strength, endurance, and function.

Therapeutic exercises:

- Continue closed kinetic chain exercise progression.
- Cross-country ski machine.
- Sport-specific functional progression, which may include but is not limited to:
    - o Slide board.
    - o Jog/Run progression.
    - o Figure 8, carioca, backward running, cutting.
    - o Jumping (plyometrics).
- Work hardening program as indicated by physical therapist and/or surgeon recommendation. Patient will need a referral from surgeon to begin work hardening.

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