

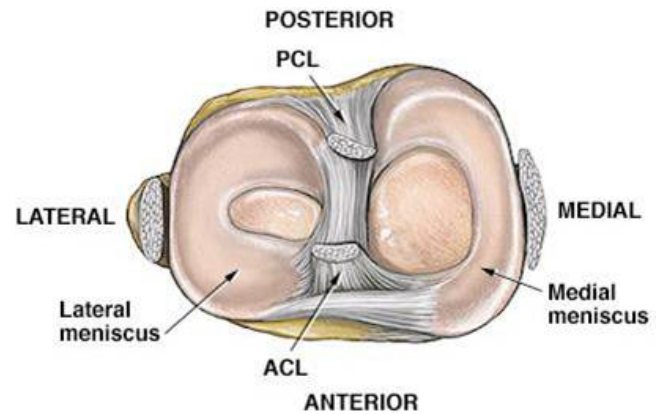
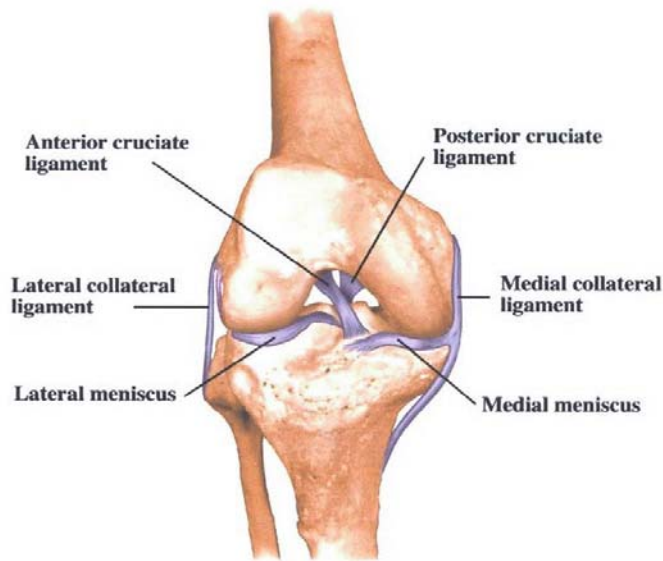


THE UNIVERSITY of TEXAS

MEDICAL SCHOOL AT HOUSTON

A part of The University of Texas Health Science Center at Houston

**MEMORIAL
HERMANN**
Sports Medicine Institute



POST-OPERATIVE INSTRUCTIONS PACKET

ANTERIOR CRUCIATE LIGAMENT (ACL) RECONSTRUCTION

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A Part of The University of Texas Health Science Center – Houston

HEAD OF ORTHOPEDIC SURGERY

Memorial Hermann – Texas Medical Center & Lyndon B. Johnson General Hospital

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PRIMARY GOALS AFTER SURGERY

GOAL #1 Control pain and swelling by taking your prescription pain medication as instructed and frequently using Cryotherapy (Cold Therapy). Cryotherapy helps reduce swelling as well as pain.

GOAL #2 Activate your Quadriceps Muscle group to achieve and maintain full knee extension. The most important muscle of this group is the innermost quadriceps muscle called Vastus Medialis Oblique or VMO. The primary responsibility of the VMO is to get your knee to full extension. This is why so much time and work goes into exercises that activate this muscle specifically.

GOAL #3 Increase your flexion while maintaining full knee extension. This is done by using your CPM unit as well as specific exercises during physical therapy and your home exercise program.

DR. WALTER R. LOWE, M.D.

i REPORTING EMERGENCIES

- **REPORTING EMERGENCIES DURING NORMAL BUSINESS HOURS**

If you have an emergency during normal business hours, please contact the appropriate office. If you are a Sugar Land patient, contact Cynthia at (281) 494-0550, press option 9 then option 4. If you are a Medical Center patient, please contact either Mellisa or Denise at our main office number at (713) 500-6540, press option 1. Our main office number is forwarded during the hours of 12pm and 2pm. If you are calling during these hours with an emergency, please let the answering service know it is an emergency and they will connect you to our office.

- **REPORTING EMERGENCIES AFTER NORMAL BUSINESS HOURS & WEEKENDS**

If you have an emergency after normal business hours or on the weekend, please contact Dr. Lowe's office at our main office number at (713) 500-6540. Your call will be connected to our answering service and your call will promptly be returned by the designated orthopedic fellow on-call. Both Sugar Land patients and Medical Center patients should call our main number to contact us after normal business hours.

- **CONTACT OUR OFFICE IF YOU NOTICE OR EXPERIENCE ANY OF THE FOLLOWING:**

- ◆ Uncontrolled nausea or vomiting
- ◆ Adverse or abnormal reaction to medication such as severe itching, redness or spotting of the skin
- ◆ Inability to urinate
- ◆ Fever greater than 101.5 (A low grade fevers 1 to 2 days after surgery is normal.)
- ◆ Cough or cold symptoms after surgery
- ◆ Severe or uncontrollable pain not relieved by pain medication
- ◆ Redness or continued drainage around incisions (A small amount is normal.) This drainage should not be yellow or green in color.
- ◆ Calf pain and/or pain deep in your calf when you bring your foot up towards your knee
- ◆ Severe swelling
- If you experience any chest pain or difficulty breathing, call 9-1-1 or proceed to the closest emergency room then contact Dr. Lowe's office.

ii CLINIC LOCATIONS AND CONTACT INFORMATION

**TEXAS MEDICAL CENTER
CLINIC LOCATION**

MEMORIAL HERMANN SPORTS MEDICINE INSTITUTE
 Memorial Hermann Medical Plaza
 6400 Fannin, Suite 1620
 Houston, TX 77030

TEL: (713) 500-6540 *New Number*
 FAX: (713) 500-0690 *New Number*

Mellisa Rannals, Office Manager
 Denise Allen, Administrative Support Coordinator

Physicians Assistant: Christian Peluse, PA-C
 Licensed Athletic Trainer: David Viaclovsky, LAT

**SUGAR LAND
CLINIC LOCATION**

BAYLOR SPORTS MEDICINE
 15200 SW Freeway
 Suite 175
 Sugar Land, TX 77478

TEL: (281) 494-0550 Press Option 9 then Option 4
 FAX: (281) 494-0145

Cynthia Wallace, LVN

DR. WALTER R. LOWE, M.D.

1 MEDICATION



- One of three pain medications will be prescribed: Norco (Hydrocodone), Darvocet, or Tylenol #3. You are to take 1 or 2 pills every 4 to 6 hours as needed for pain.
- It is recommended that you take the pain medication with food as they may cause nausea if you take on an empty stomach. It is not uncommon to develop constipation when taking prescription pain medication. You may take an over the counter stool softener or laxative if needed.
- If you have a nerve block, begin taking the pills as you feel your sensation returning to prevent a sudden onset of extreme pain.
- Do NOT drive or operate heavy equipment when taking your prescription pain medication.
- Do NOT take any prescription pain medication with Tylenol (Acetaminophen), Advil (Ibuprofen), or Aleve (Naproxen Sodium) for 2 weeks after surgery as this may impair graft healing.
- Ambien or Lunesta may also be prescribed to assist with sleeping.
- Resume all other normally prescribed medications unless otherwise instructed.
- If at any time while taking your medication that you are having an adverse reaction, please contact the office at (713) 500-6540.

2 WOUND CARE AND HYGIENE



- Do **NOT** remove or unwrap your dressings after surgery.
This includes you the patient, your caregivers, or the physical therapist.
An exposed wound in physical therapy is UNACCEPTABLE.
- Incisions should NOT get wet for 10 to 14 days after surgery. Dressings will be changed on your first post-op visit and a new dressing applied. If your dressing gets EXCESSIVELY wet prior to your first post-op visit, meaning “soaked through,” please contact the office for instructions.
- If you feel that the dressing may be too tight, you may loosen the elastic bandage only. Do NOT remove any of the sterile padding or gauze as this may expose you to an infection.
- Until your first post-op visit, you are to shower or bathe WITH your post-op brace on. Wrap your leg in a large plastic bag with closure at both ends. You can use tape at both ends for closure. You can also wrap the bag with plastic saran wrap for additional protection.
- NO submersion of wounds (bath, hot tub, pool, etc.) is allowed until a minimum of 3 weeks after surgery to allow ample time for incisions to close and heal properly.
- Your smaller portal incisions have absorbable sutures beneath the skin. Your larger, longer incisions require an external suture to keep the incision closed tighter to promote faster healing. These external sutures will be removed or clipped 10 to 14 days after surgery at your 2-week or second post-op appointment. At this time your dressings will be changed again and you will be released to shower normally without covering. Your steri-strips should remain on for one additional week. Dr. Lowe’s staff will give you more specific instructions at your second post-op visit regarding showering.

3 CRYOTHERAPY (COLD THERAPY)



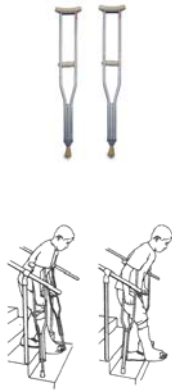
- Cryotherapy or Cold therapy is used to control pain and swelling.
- The use of ice or other cryotherapy device such as the Game Ready or Cryo-Cuff should be constantly for the first 24 hours. Place the cryotherapy device on top of the post-op surgical dressings. Do NOT remove your post-op bandages. To help reduce the likelihood of your initial post-op dressing getting wet, you can place a barrier of saran wrap or a piece of plastic, i.e. plastic zip-loc bag, between the device and your dressing.
- If a cryotherapy device such as the Game Ready or Cryo-Cuff is not applicable, a very easy and inexpensive way to ice is to use frozen peas. Go to the grocery store and buy several bags of frozen peas. Take them out of the bag they come in and place in a gallon sized zip-lock freezer bag making them about an inch thick. Try to get as much air out of the bag as possible and make a good seal. When you are done, return them to your freezer and lay flat. Now you have a light, inexpensive ice bag that can be reused numerous times. Frozen pea ice packs are also helpful to use on the lower leg to reduce swelling and can be done while in your CPM unit.
- After the first day, use cryotherapy for 15 to 20 minutes every 2 to 3 hours.
- Always use cryotherapy after physical therapy and home exercises to help with swelling and pain.

4 CPM (CONTINUOUS PASSIVE MOTION) UNIT



- Your knee is a joint. All joints are designed to move. Your CPM unit is to be used to passively move your knee through a specified range of motion. This passive motion stimulates the healing process of your knee as well as helps to limit excessive scar tissue adhesions that may hinder your recovery.
- The CPM machine should be used without your brace for 4 to 6 hours a day, usually in 1 to 2 hour increments as tolerated for 2 weeks after surgery until a goal of 90 degrees has been achieved comfortably.
- Your specific surgical procedure may require modifications to this goal of 90 degrees. Limits in range of motion vary depending upon specific procedures performed and protocols. Dr. Lowe will give these instructions to your caregiver following surgery.
- The initial setting for the CPM may vary according to specific procedures that may have been necessary during your surgery. Typically begin with a flexion setting of 30 degrees and progress as tolerated increasing to 90 degrees unless instructed otherwise by Dr. Lowe. Attempt to maintain a 0 to 90 degree range of motion. If this becomes too painful, you may decrease the flexion to a tolerated degree.
- Do NOT sleep in the CPM machine.
- Do NOT exceed 90 degrees of flexion on the unit.
- If you feel that you are not getting to full extension, you can set the CPM extension setting to a negative number (0 to -5 degrees only!).

5 CRUTCHES AND WEIGHT-BEARING STATUS



- Dr. Lowe will instruct your caregivers of the specific weight bearing status after surgery.
- Generally, full weight bearing as tolerated with your brace on the involved leg is allowed unless otherwise instructed by Dr. Lowe after surgery. Crutches will be necessary to assist with balance and stability.
- Crutches are assistive devices so it is important to walk with as normal of gait pattern as possible within your brace range of motion limitations.
- Crutches will be needed until either Dr. Lowe’s staff or your physical therapist deem them unnecessary based upon strength in the involved leg and you can walk with a normal gait pattern. Most patients are full weight bearing and off crutches usually within 7 to 14 days unless otherwise instructed by Dr. Lowe according to the specific procedures done during your surgery.
- If you need to use stairs while you are on walking with crutches, a simple rule to follow is “Up with the good, down with the bad”. You want to lead up stairs with your uninvolved leg first, followed by the crutches and involved leg to the same step. On the way down, you want to lead with the crutches and involved leg first, then the uninvolved leg to the same step. Always use caution when using stairs or steps.

6 POST-OPERATIVE BRACE



- The post-operative DonJoy IROM brace will be locked in full extension and is to be worn at all times unless you are using the CPM machine, doing your exercises or using cryotherapy.
- This brace is necessary in order to protect your knee while your muscles are inhibited for even the simplest of tasks such as going to the restroom.
- Your brace is to remain locked at 0 degrees until your first post-op visit. It will then be opened or unlocked at your first post-op visit unless otherwise instructed by Dr. Lowe.
- Dr. Lowe’s staff will then instruct you when to increase the range of motion setting of your brace as well as when to discontinue using the brace. Generally, your brace will be opened to allow 60 degrees of motion at your first post-op visit and again opened to 90 degrees at your second post-op appointment. You should gain full range of motion of your brace (0 to 120 degrees) at your 4-week post-op visit.
- You will be measured for a functional brace on your 4-week post-op appointment. This brace will be shipped to your home address and is to be brought with you to your 8-week post-op appointment. The functional brace will be fitted to you and instructions given as to how to put on and use your functional brace.

7 SLEEPING AT NIGHT

- Night time will probably be the most uncomfortable time. Blood circulation decreases when you sleep and can cause discomfort especially when you have swelling. This is normal. You may choose to use the sleeping aid prescribed to assist you in resting well.
- It is recommended that you sleep in your post-op brace until your first post-op visit unless otherwise instructed by Dr. Lowe. You may slightly loosen the straps to make it more comfortable to sleep.

8 BRUISING



- Bruising of the lower leg is normal. This is a result of the fluid and blood in the knee moving down the leg due to gravity and should resolve in 10 to 14 days.
- It is not uncommon to develop tenderness along the shin bone area. This is due to swelling and edema that is normally not present.
- If you experience severe calf pain or swelling, call the office immediately.

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9 PHYSICAL THERAPY AND HOME EXERCISE PROGRAM



- Physical therapy is a key component of recovery and usually starts the day following surgery. If your surgery is on a Friday, you should begin on the next business day. Beginning physical therapy as soon as you can after surgery will help you achieve the primary three goals listed above.
- Our primary objective following knee surgery is to obtain full knee extension. This is very important to achieve early post-operatively as it may become increasingly difficult to obtain longer following surgery.
- Full knee extension can only be achieved by activating and contracting your quadriceps muscles, the muscles on the front of your thigh. The most important of the four quadriceps muscles is the Vastus Medialis Oblique or VMO, the innermost of the four. The VMO muscle is crucial for full extension because it is the only one of four muscles that can achieve full knee extension.
- When you are not in your CPM or performing your home exercise program, keeping the leg elevated for the first few days will help control swelling.
- DO NOT put pillows under the knee at any time immediately following surgery. Placing pillows under your knee will keep the knee from obtaining full extension, one of your primary goals following surgery.
- To help gain full knee extension the first exercise is to do a Quad Set. Sit upright with your involved leg out straight and your uninvolved leg bent with foot flat on the floor or flat surface. Place a small rolled up towel under your ankle. Now contract your quadriceps muscles and try to touch the back of your knee to the flat surface you are on. Try not to push your leg down toward the flat surface but instead tighten your quads and act as if you are going to do a straight leg raise but without actually lifting. Pushing down will use your hamstrings, the muscles on the back of your thigh. The only way to actively achieve full extension is to tighten your quadriceps.
- Depending upon your limitations after surgery, several exercises will be beneficial for you to do initially at home until instructed at physical therapy. These include: Quad Sets (described above), Ankle Pumps (moving your foot up and down like a gas pedal motion, and Straight Leg Raises. It is important to do these exercises at home 3 to 4 times per day.
- Moving around after surgery will help diminish the risk of blood clots. Try to be as independent as possible without compromising your safety. The key to prevent blood clots is to avoid excessive bed rest.

10 POST-OP OFFICE APPOINTMENTS

- Your post-op appointments will be scheduled prior to surgery. If for any reason they have not been scheduled, please contact our office. Cynthia will make post-op appointments for all Sugar Land patients and Mellisa will make post-op appointments for all Medical Center patients.
- Surgical post-op visits are scheduled on clinic days either on Mondays in the Sugar Land office or Tuesdays in the Texas Medical Center office located in the Memorial Hermann Medical Plaza. Typically your first post-op appointment should be on the first available clinic day following surgery. It is important to make each of your post-op visits, especially your first visit where you will have your initial dressing changed.

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10 POST-OP OFFICE APPOINTMENTS (CONTINUED)

- **THE FOLLOWING IS GENERALLY WHAT TO EXPECT DURING YOUR POST-OP OFFICE APPOINTMENTS FOLLOWING ACL RECONSTRUCTION SURGERY:**

WEEK 1

- ◆ Initial dressing change is done. Incision sutures are not removed.
- ◆ Your post-op brace will typically be unlocked to allow 60 degrees of motion unless otherwise instructed by Dr. Lowe. You are to wear brace a all times other than when you are in the CPM unit, performing your home exercise program or physical therapy, or when you are using cryotherapy. You do not have to sleep in your brace after your first post-op visit unless otherwise instructed by Dr. Lowe.
- ◆ A description of the specific procedures performed during your surgery including an explanation using photos taken during your surgery.
- ◆ Patient education in regards to the 3 primary goals after surgery, the importance of your physical therapy sessions and home exercise program, your specific use of crutches along your weight-bearing status.

WEEK 2

- ◆ Dressing change will be performed with either removal or clipping of external incision sutures. After this is done, you are allowed to shower normally without covering.
- ◆ Your post-op brace range of motion will typically be increased to allow 90 degrees of motion unless otherwise instructed by Dr. Lowe. You should continue wearing your brace as described above.
- ◆ Your progress of home exercise program and physical therapy will be assessed in regards to achieving the 3 primary goals after surgery as well monitoring your increasing muscular strength, balance and control.

WEEK 4

- ◆ Your progress of home exercise program and physical therapy will be assessed and reviewed. You should have increased quadriceps strength and able to obtain and maintain full knee extension.
- ◆ Your post-op brace range of motion will typically be increased to allow 120 degrees of motion unless otherwise instructed by Dr. Lowe. In most cases you will be allowed to be out of your brace while you are at home. You should still wear the brace when you leave your home.
- ◆ You will be measured for a functional brace on your 4-week post-op appointment. This brace will be shipped to your home address and is to be brought with you to your 8-week post-op appointment. The functional brace will be fitted to you and instructions given as to how to put on and use your functional brace.

WEEK 8

- ◆ Your progress of home exercise program and physical therapy will be assessed and reviewed. You should have increased quadriceps strength and able to obtain and maintain full knee extension regain most of your flexion when compared to the uninvolved leg.
- ◆ X-rays will be taken at this visit to view the progress of the healing of the bone tunnels and fixation.
- ◆ Be sure to bring your functional brace with you to this visit. Your brace will be inspected for fit as well as you will be given specific instructions as how to put on the brace and when to use your brace.

Additional post-op visits at weeks 12 and 16 and at 6 months will assess your progress and instruct you as to your progression in physical therapy and functional exercises per protocol.