

# ACL Reconstruction

## Post-Operative Guidelines

This document will help you plan for your post-operative recovery course following surgery. **Please read and retain this information for future reference.** Many of the questions you may have later can be answered by referring to this information.

### DIET

- Begin with clear liquids and light foods (jellos, soups, etc.).
- Progress to your normal diet if you are not nauseated.

### POST OPERATIVE BRACE

- A hinged knee brace is to be worn for 3-4 weeks after surgery.
- Please sleep with this brace on. See additional instructions for brace details.
- Okay to remove ACE wrap for ice therapy, but compression is helpful during the first 2 weeks.

### CRUTCHES

**Week 1:** Toe-touch weight-bearing with 2 crutches

Approximately 20 lbs - lightly resting the foot on the floor.

**Week 2:** Full weight as tolerated.

Wean to 1 crutch during the 2<sup>nd</sup> week, then discontinue crutches or transition to a cane.

*You may discontinue the crutches during the second week when you are comfortable with full weight on the leg. Your physical therapist may guide you with this process. You may be faster than this timeline, that is encouraged!*

### WOUND CARE

- Please keep the ACE wrap on under the brace for the first week, you may remove the ACE wrap for ice therapy.
- Underneath the ACE wrap are waterproof bandages, please keep these in place until your first post-op appointment with Dr. Ahsan.
- Under the waterproof bandages is Dermabond, this is a surgical glue and tape that is used in conjunction with absorbable stitches to close the incision.
  - Please do not touch the Dermabond or place any ointments lotions or creams directly over the incisions.
- You may shower after removing the ACE wrap by placing Saran wrap around the leg and covering the bandages.
- NO soaking of the operative leg (ie: bath or pool) is allowed until 6 weeks after surgery.

## PAIN MANAGEMENT

- Local numbing medications, or peripheral nerve block are injected into the wound around the knee at the time of surgery. These will wear off within 8-24 hours and it is not uncommon for you to encounter more pain on the first or second day after surgery when swelling peaks.
- **Do not drive a car or operate machinery while taking the narcotic medication.**
- Please avoid alcohol use while taking the narcotic pain medication.

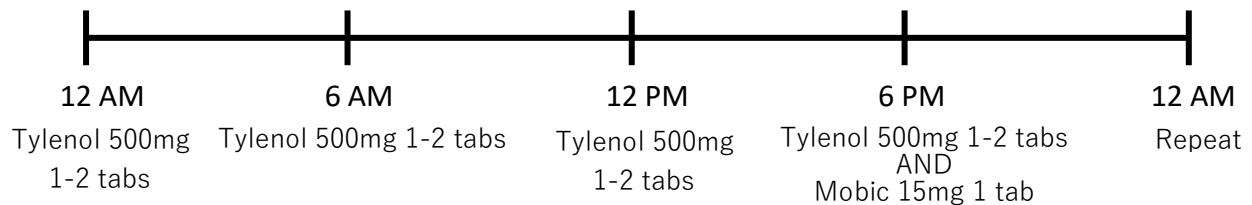
## NON-NARCOTIC PAIN MEDICATIONS

### Extra-Strength Tylenol (Acetaminophen) 500mg Tablets *(available over the counter)*

- Indication: pain, non-narcotic pain reliever
- Use: Take 1-2 tablets every 6 hours. Do not exceed 8 tablets in a 24-hour period.

### Mobic (Meloxicam) 15mg Tablets *(Prescription sent to pharmacy)*

- Indication: pain and anti-inflammatory, non-narcotic pain reliever
- Use: Take 1 tablets daily with meals for the first 14 days after surgery.
- Side Effects: upset stomach, acid reflux. If this occurs, stop the medication.



## NARCOTIC PAIN MEDICATIONS

OPIOIDS/NARCOTICS are prescription pain medications. One of the following medications will be prescribed and should only be used if adequate pain control is not achieved with combination of ice, Aleve, and extra-strength Tylenol outlined above. Side effects include constipation, nausea, drowsiness, dry mouth, itchiness. Use a 0-10 pain scale to decide how much medication to take:

Pain 0-4/10: No narcotics necessary

Pain 5-7/10: Take one tablet

Pain 8-10/10: Take two tablets

### Tramadol (Ultram) 50mg tablet

- Indication: pain 5/10 or greater. Non-opioid *narcotic like* medication
- Use: 1-2 tabs every 6 hours as needed for pain. Do not take more than 8 tablets in any 24-hour time period.

Narcotics may cause nausea and constipation. Bowel regimen is recommended.

**Colace (Docusate) 100 mg - available OTC**

- Indication: constipation, stool softener. Take consistently while on narcotics.
- Use: Take 1 pill three times per day while you are taking narcotics.

**Senokot (Senna) 8.6 mg - available OTC**

- Indication: constipation, stool laxative. Take consistently while on narcotics.
- Use: Take 2 pills at bedtime. Increase to 2 pills twice daily if no bowel movement by post-surgery day 2.

**Miralax (Polyethylene Glycol) 17.6 g – available OTC**

- Indication: constipation, stool laxative. Take if above medications are not working.
- Use: Take one dose at bedtime. In addition to above with no bowel movement by post-surgery day 2.

**Zofran (Ondansetron ODT) 4 mg - Prescription sent to pharmacy**

- Indication: nausea. Take as needed.
- Use: Take 1 pill AS NEEDED every 8 hours, do not exceed 3 pills in 24 hours

## ACTIVITY

- Elevate the operative leg to chest level whenever possible to decrease swelling.
- Do not place pillows under knees (i.e. do not maintain knee in a flexed or bent position), but rather place pillows under the foot/ankle.
- Use crutches to assist with walking – Do not walk without brace on.
- Do not engage in activities which increase knee pain/swelling (prolonged periods of standing or walking) for the first 4 weeks following surgery.
- Avoid long periods of sitting (without leg elevated) or long distance traveling for 4 weeks.
- NO driving until instructed otherwise by physician.
- May return to sedentary work ONLY or school 3-4 days after surgery, if pain is tolerable.

## ICE THERAPY

- Icing is very important in the initial post-operative period and should begin immediately after surgery.
- **You can remove the ACE wrap for ice therapy**
- Use icing machine continuously or ice packs (if machine not prescribed) for 30-45 minutes every 2 hours daily until your first post-operative visit – remember to keep leg elevated to level of chest while icing. Care should be taken with icing to avoid frostbite to the skin.
- You do not need to wake up in the middle of the night to change over the ice machine or icepacks unless you are uncomfortable.

## EXERCISE

- Begin exercises 24 hours after surgery (straight leg raises, quad sets, heel slides, and ankle pumps, unless otherwise instructed).
- Discomfort and knee stiffness are normal for a few days following surgery. It is safe to bend your knee in a non-weightbearing position when performing exercises unless otherwise instructed. Avoid flexing past 90 degrees.
- Complete exercises 3-4 times daily until your first post-operative visit – your motion goals are to have complete extension (straightening) and 90 degrees of flexion (bending) at your first post-operative appointment unless otherwise instructed.
- Perform ankle pumps continuously throughout the day to reduce the risk of developing a blood clot in your calf.
- Formal physical therapy (PT) typically begins as soon as possible, ideally 1-3 days after surgery.

## EMERGENCIES\*\*

Contact Dr. Ahsan's Team via **MyChart** or **630-646-7000** if any of the following are present:

- Painful swelling or numbness (note that some swelling and numbness is normal).
- Unrelenting pain.
- Fever (over 101° – it is normal to have a low-grade fever for the first day or two following surgery)
- Redness around incisions.
- Color change in foot or ankle.
- Continuous drainage or bleeding from incision (a small amount of drainage is expected).
- Difficulty breathing.
- Excessive nausea/vomiting
- Calf pain.
- If you have an emergency after office hours or on the weekend, contact the office at 630-646-7000 and you will be connected to our pager service. This will connect you with the Physician on call.
- If you have an emergency that requires immediate attention proceed to the nearest emergency room.

## FOLLOW-UP CARE/QUESTIONS

- Your first post-operative appointment will be 1 week following surgery for wound evaluation, knee X-rays and to answer any questions you have regarding the procedure.
- Typically, the first physical therapy appointment following ACL reconstruction is made for 1-3 days following surgery. This prescription will be communicated prior to surgery.
- If you have any further questions, please contact Dr. Ahsan's team directly.

## Frequently Asked Questions: ACL Reconstruction Surgery

### What is the ACL?

The **Anterior Cruciate Ligament** (ACL) is a ligament within the knee joint that connects the femur (thigh bone) to the tibia (shin bone). The ACL is important for stabilizing the knee joint to allow for pivoting and twisting motions that are common in sports.

### How does an ACL Injury occur?

ACL injuries happen most commonly in high-risk sports such as football, soccer, basketball, gymnastics and skiing in which the athletes perform sudden stops, aggressive changes in direction, or jumping and landing. They can also be caused by a collision with other athletes (such as a tackle) in which the knee is forcibly bent in an unnatural way.

### Why does the ACL get injured?

There are more than 200,000 ACL injuries in the United States every year, making it the most common knee injury among athletes of all ages and competition levels. At the time of injury, the knee is usually slightly bent leading to excessive force on the ACL which may cause an injury ranging from a minor strain to a complete tear. Women are at two to four times higher risk than men for ACL injury, this is due to an anatomic difference in hip-knee angle, muscle strength, and hormonal influences. Other predisposing factors include poor conditioning, improper equipment (shoes, ski bindings/boots), or adverse weather conditions. Artificial turf results in greater friction and is responsible for more knee injuries than on grass surfaces.

### What are the symptoms of an ACL injury?

At the time of injury, you may hear a “pop” followed by immediate pain and swelling of the knee. As the swelling resolves, there may be bruising and a sense of the knee buckling or feeling unstable. You may not be able to bend or straighten the knee as much as the other (uninjured) side. While some may not be able to walk or stand for prolonged times, sometimes the pain and swelling completely resolves. Although, it is important to know that continuing activities with an unstable knee can cause further damage to structures in the knee such as the meniscus and cartilage.

### How is an ACL injury diagnosed?

Sports Medicine specialists such as Dr. Ahsan can diagnose an ACL injury by listening to the patient’s story of how the injury occurred and performing stability tests during physical examination. As part of the comprehensive evaluation, x-rays of the knee and MRI (magnetic resonance imaging) scan are also done to check for any additional injuries that may occur up to 50% of the time.

## What are the different types of ACL injury?

### Grade 1 – ACL Sprain

This is where the ACL is stretched, resulting in a minor injury to its fibers. Initially, the patient may have similar symptoms as other types of ACL injury including swelling, pain, and inability to walk normally. Fortunately, Grade 1 ACL sprains can be treated with non-operative treatment including, rest, ice, elevation, compression, and anti-inflammatory medications. Patients are typically able to return to activity within 2-4 weeks after the initial injury without significant restrictions.

### Grade 2 – Partial ACL Tear

In this injury, the ACL fibers are partially torn. Depending on how much of the ACL is injured, the knee may or may not be unstable. Some patients may do well with non-operative treatment and if there is minor knee instability this can be compensated by knee bracing and physical therapy to strengthen surrounding knee muscles. Surgery may be needed if the knee is too unstable to perform the patient's desired activities, such as return to sport.

### Grade 3 – Complete ACL Tear

Complete tearing of the ACL fibers causes the knee to become unstable. Surgery is needed in this setting for returning to an active lifestyle and to help prevent further injuries within the knee due to instability.

## When is the best time for ACL surgery?

The best time for surgery typically occurs 2-3 weeks after the initial injury, this allows for the swelling and pain of the knee to be reduced. Patients that undergo surgery with full knee range of motion (ability to bend and straighten) have an easier time regaining this ability after surgery. It is often helpful to attend 2-4 physical therapy sessions prior to surgery to strengthen muscles around the knee and speed up the recovery process after surgery.

## What is the treatment for an ACL injury?

With a high-grade ACL injury, the fibers are damaged beyond repair; this is similar to that of a rope being pulled apart. As a result, the ACL needs to be replaced (termed reconstruction) with a material that will take the role of the ACL. This procedure is performed using knee arthroscopy, a minimally invasive technique that allows for a clear view of the entire knee joint to treat other problems such as a torn meniscus at the same time.

ACL reconstruction can be done with the patient's own tissue (autograft) or donated cadaveric tissue (allograft). Studies have universally shown that autograft is superior to allograft for quality of healing and reliability in ACL reconstruction. Preferred autografts that we use for ACL reconstruction include:

- *Patellar Tendon* – The central 1/3 of the patellar tendon with 2 blocks of bone on each end is used to replace an injured ACL. The remaining ends of the patellar tendon are stitched together and it heals uneventfully. This graft is most commonly used in contact athletes aiming to return to high level sports.

- *Quadriceps Tendon* – The central 1/3 of the quadriceps tendon with or without a single bone block from the patella (kneecap) is used to replace the ACL. The remaining ends of the quadriceps tendon are stitched together allowing for complete healing. This graft is gaining popularity, it is often used for revision (repeat) surgery as well as primary surgery if deemed to be the best option.
- *Hamstring Tendons* – Two of the four hamstring tendons (Semitendinosus and Gracilis) are used to reconstruct the ACL. Over time, the remaining hamstring muscles grow to balance out the minor loss of hamstring strength. This graft is best for slightly lower demand athletes that will not be performing cutting / pivoting activities regularly. This graft often has the least challenging recovery and rehabilitation of the 3 options.

## How long before I can play sports after an ACL reconstruction?

Recovery time is an individualized process for each patient and depends on multiple factors including additional procedures at the time of ACL reconstruction and graft selection. Successful return to sports requires fully regaining muscle strength, balance, and stamina to a level equal to or preferably better than prior to the injury. Dr. Ahsan carefully prescribes a protocol for physical therapy, strength training, and a focused return to sport regimen that can be accomplished in 7-12 months after reconstruction. Along each step of the way, our team evaluates strength and progression to guide the recovery.

## What are the risks of ACL surgery?

There are two primary risks associated with ACL surgery. The first risk is infection. While very uncommon, infections do occur and are typically associated with poor wound healing. As such, we recommend keeping these wounds dry for at least 2 weeks after surgery. Please do not use ointments or other compounds on these wounds until instructed to do so by the staff. Again, smoking interferes with wound healing, so discontinuing smoking 2 weeks prior and following surgery is recommended. Blood clots (DVT, deep vein thrombosis) occur rarely following all types of surgery. Your best bet in decreasing likelihood of a clot is to GET UP and MOVING following surgery. Moving your feet and ankles, ambulating, ranging your knee, doing leg lifts etc. all contribute to keeping the blood moving in your legs circulating. This in turn helps to prevent clotting. If you feel pain in your calf area, or note swelling there – immediately notify the office staff. A quick and painless test (ultrasound) can be arranged to see if you have a DVT. Again, these issues are rare, but if you do experience a clot, you will need to take a blood thinner (Warfarin, Coumadin) until the clot disappears.

## How often do I come back to the office?

You will need to come back to the office at 1 week, 5 weeks, 4 months, 6-7 months, and 1 year after surgery.