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Patient Information Sheet: Anterior Cruciate Ligament  
Dedham Office: 617-264-1100 Waltham Office: 781-890-2133

The anterior cruciate ligament or ACL is one of the major ligaments located in the knee joint. This ligament serves to stabilize the knee permitting us to run, jump and participate in sports. ACL injuries often occur during sports such as basketball or soccer which require cutting and pivoting movements. These actions could result in an ACL tear. Contact injuries such as a football player making contact with the knee of another football player during a tackle may also result in an ACL tear. The external force on the knee may be so overwhelming that other structures may be injured along with the ACL including the medial collateral ligament, or the medial or lateral meniscus.

#### Initial Injury:

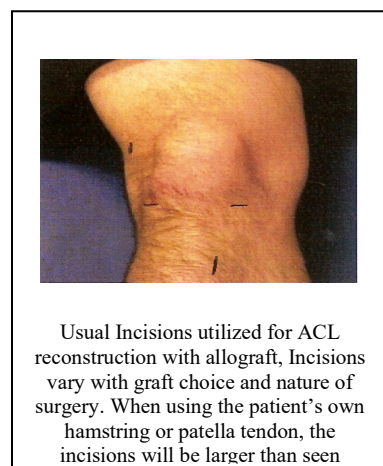
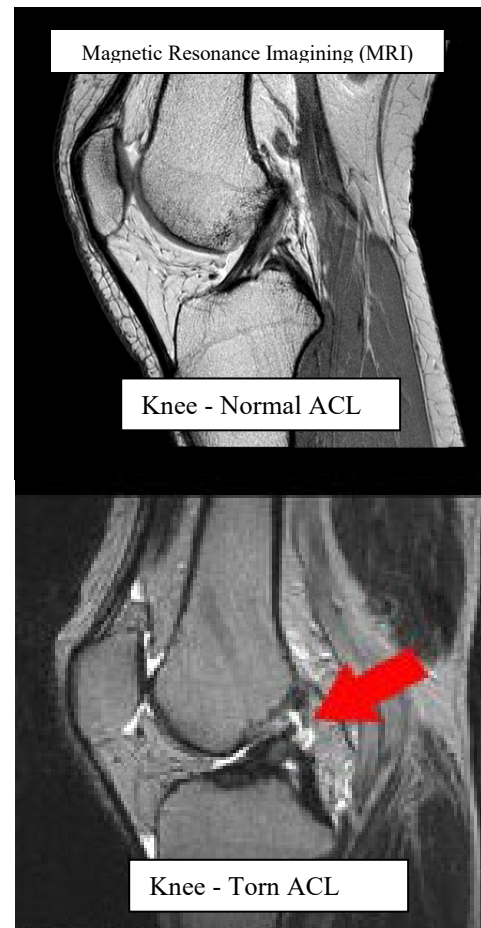
During the initial injury, patients often report a sensation of leg buckling or giving way. You may even hear a “pop” from the knee joint. Patients are seldom able to continue with the activity or sport they were playing. Often the joint will swell within hours of the injury producing an enlarged and tender joint. Treatment at this time consists of rest, elevation, ice, compression and possibly crutches for ambulation.

Physical examination and imaging such as x-rays and MRI’s are used to diagnose an ACL tear. The MRI is also useful to diagnose any associated injuries to the knee.

#### ACL Reconstruction Surgery:

Unfortunately, a completely torn ACL does not heal and must be either reconstructed or left deficient. The knee can function without an ACL. For the younger or active patient who seeks to return to an active lifestyle including playing sports, the ACL should be reconstructed to avoid further knee injury. Older and sedentary patients whose leg remains stable after injury may opt not to have their ACL reconstructed. These patients may however, be putting other stabilizers of the knee (meniscus) at risk due to the inherent instability of the ACL deficient knee. To summarize, If the knee is unstable regardless of age or activity level, it should be reconstructed.

A graft will be used to reconstruct the ACL. In the United States, the most common grafts are; patella tendon, hamstring tendon and allograft or donated tissue. Each graft has specific benefits and drawbacks.



## Pre-Surgery:

Before surgery, patients are instructed to continue to be as active as the knee permits **excluding participation in sports**. The following are specific instructions leading up to arthroscopic knee surgery.

- Anti-inflammatories such as ibuprofen or aspirin must be stopped 7 days prior to surgery. Utilize ice, elevation and Tylenol as per box dosage recommendation to control pain and swelling during this period
- On the night before surgery, If at:
  - Boston Outpatient Surgical suites:
    - No food or liquids after 12 am
  - New England Baptist Hospital:
    - No food or liquids after 12 am
- On the morning of surgery you may take your daily pills with a sip of water
- Your surgery time will be confirmed the day before the surgery by either:
  - Boston Outpatient Surgical Suites (BOSS): 781-895-4901
  - New England Baptist Hospital (NEBH): 617-754-5800
  - The original time may be adjusted based on patient needs and equipment availability
- Patients should bring their “Patient Passport Folder” MRI and X-rays to the surgery
- If your surgery is done at our Waltham facility (BOSS), the person who is accompanying you is welcome to a free one-day gym pass

## Surgery:

The length of the procedure is approximately one hour. This may be longer depending on type of graft

used and whether there are other associated injuries such as a meniscal tear.

Your nurse will bring you into the pre-op area where you will have an IV

placed and meet your anesthesiologist. General anesthesia is utilized to

assure a comfortable surgery. This means that you will be “asleep” and

completely unaware of the surgery until you wake up in the recovery area.

Most patients will have a small tube placed in their windpipe, formal

intubation may not be required. The surgery is conducted with arthroscopic

equipment. This means that we will use a small camera and small equipment

through little incisions to reconstruct the ACL. Risks to surgery include and

are not limited to: Bleeding, Infection, Blood clots (DVT), knee stiffness,

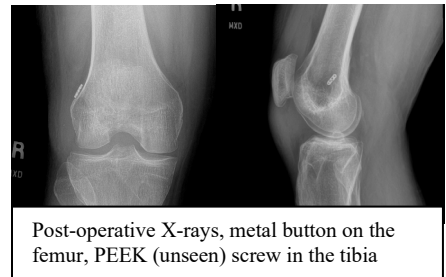
need for further surgery. You should expect some regional skin numbness that may be permanent. This is a normal

result of making a skin incision.

Implants are used to secure the new ACL in place. The type of implant may vary as needed to assure

effective fixation of the graft. The implants may be a combination of metal and PEEK; a type of plastic

Prior to your surgery you will be given the option to have a nerve block as part of your post-operative pain management plan. See block information page.



## Post-Surgery:

After the surgery is completed, you will awaken in the operating room and be moved to the recovery area.

After surgery, most patients generally recover smoothly and have minimal pain due to local pain medication that is used at the completion of the surgery.

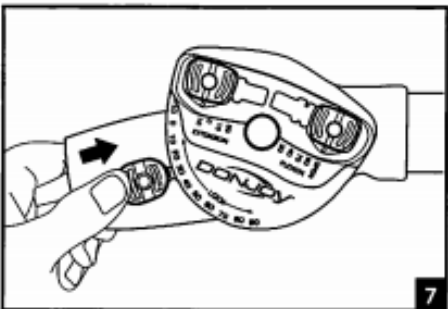
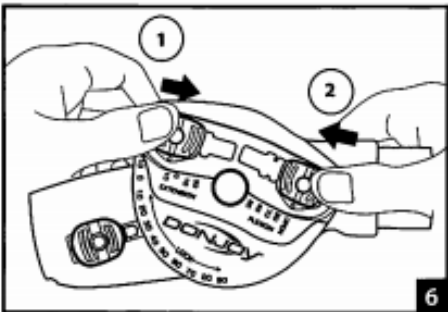
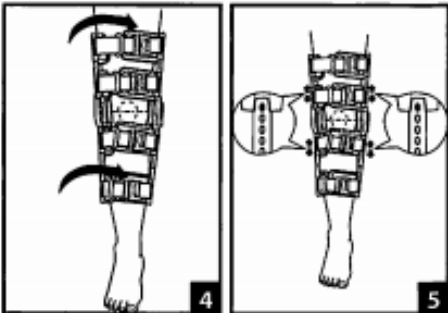
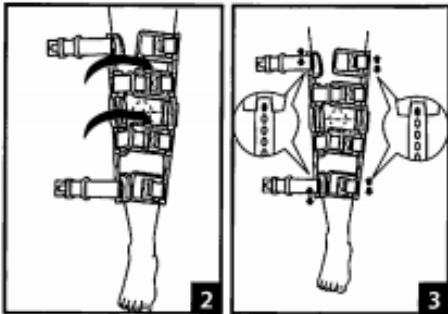
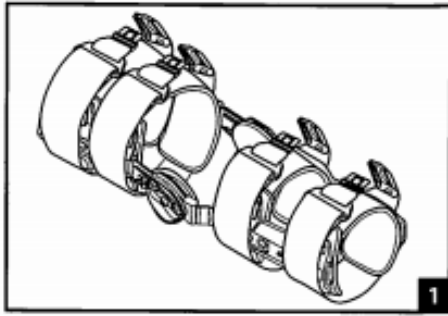
- **Bracing:** At the completion of surgery, you will have a brace placed on your leg. The brace should be locked for 24 hours. **You may unlock the brace after 24 hours**, which will allow your knee to bend and straighten. The brace may only be removed when sitting with your leg elevated and in an extended position. **It should be secured tightly in an unlocked position during all other times, including walking and sleeping.**

- A pain medication prescription will be provided prior to discharge. You may take the prescribed medication as directed. You should expect to experience minimal to moderate knee discomfort for several days and even weeks following the surgery. Patients often only need prescription narcotics for a few days following surgery and then can switch to over-the-counter medications Tylenol or Ibuprofen.
- Ice bags and elevation should be utilized to decrease swelling and pain. Keep ice on for 15 minutes and off for 45 minutes during the initial postoperative period and following exercises.
- You should be comfortable walking independently with crutches before leaving the hospital or surgery center. You will be able to put as much weight as tolerated on your knee.
- **If you should experience the onset of calf pain during the post-operative period please call our office or head to your local emergency room as this may be a sign of a blood clot. If you should experience shortness of breath or trouble breathing, call 911 and go directly to the Hospital.**
- If the bandage is draining, reinforce it with additional dressings for the first 48 hours. After 48 hours remove the bandage and place band aids over the incision sites. Showering is acceptable at this time. Do not submerge or scrub the knee.
- Rehabilitation starts the day of surgery. Set aside 3-4 times a day for range of motion and exercise strengthening program. See exercises at end of packet. **Make an appointment to start physical therapy during the first post-operative week.**
- Take one 325 mg (full strength) aspirin daily for 21 days (unless otherwise instructed or allergic) to prevent blood clots.
- Follow up with Dr. McKeon or Jason Rand PA-C within 2 weeks from the date of surgery
- Eat a regular diet as tolerated and please drink plenty of fluids.
- You may drive once you establish full control of your extremity (able to perform a straight leg raise, etc.). If your right knee was operated on, this may take several days to achieve
- Call office for Temperature >102 degrees, excessive swelling, pain or redness around the incision sites.
- Plan at least 2-3 days away from work or school. Utilize this time to decrease swelling and participate in your home exercise program. You may be able to resume work once the pain and swelling resolves (this varies based on job activity).



It is important to note that osteoarthritis or cartilage degeneration may lengthen the time to full recovery and 100% recovery may not be possible. A knee with osteoarthritis may require cortisone or Hyaluronic injections post-op to aid in the post-op recovery

# Bracing Instructions



## ENGLISH

**BEFORE USING THE DEVICE, PLEASE READ THE FOLLOWING INSTRUCTIONS COMPLETELY AND CAREFULLY. CORRECT APPLICATION IS VITAL TO THE PROPER FUNCTIONING OF THE DEVICE.**

**INTENDED USE/INDICATIONS:** For immobilization and protected range of motion associated with ACL, PCL, LCL, and MCL surgeries and meniscal repairs. This product was designed to complement the variety of medical treatments common to the above afflictions. The range of motion settings and frequency and duration of use should be determined by your prescribing Healthcare professional.

**CONTRAINDICATIONS:** None

**WARNINGS AND PRECAUTIONS:** If you experience any pain, swelling, sensation changes, or any unusual reactions while using this product, consult your medical professional immediately.

### APPLICATION INFORMATION:

- 1) Unfasten the buckle on each strap and lay brace out flat. Place leg inside brace and adjust the straps to position bar assembly so that each hinge aligns with the patella (kneecap) and the midline of the leg on both the medial and lateral sides of the leg.
- 2) Fasten the two straps closest to the knee.
- 3) Adjust thigh and calf bar length by pushing in the gray button and sliding the strap paddles to desired length. Ensure that both bars are equal in length and that each strap paddle is indexed to same position on each bar assembly.
- 4) Fasten the remaining two straps. Loosen the straps by pulling the straps away from the frame, and pull straps tight to remove slack behind the leg while maintaining the position of the hinge and bars on the leg. The straps can be trimmed for proper fit and strap-end can be repositioned to new edge of strap.
- 5) To adjust the position of the straps on the leg, push the gray button and slide the strap paddles to the desired location on the leg.
- 6) To adjust flexion and extension, slide the buttons found on the hinge casing to the desired flexion/extension settings as determined by your prescribing healthcare professional. You may need to move the hinge bar to the desired extension setting on the outer rim of the hinge in order to be able to move the extension button.
- 7) To lock the hinge, move the hinge bar to the desired setting on the outer rim of hinge. Slide the hinge lock button, located on the thigh bar, into the locked position such that the arrow moves towards the hinge center.
- A) The hinge bars may be bent to add varus or valgus contouring. Bend each bar by holding thigh/calf bar firmly against a solid surface and apply gentle and constant pressure to the hinge in the direction desired. Bend each side bar an equal amount above and below the hinge.
- B) For optimal ease of application post-operatively, pre-fit the brace prior to surgery if possible.

**CLEANING INSTRUCTIONS:** Hand wash foam liners in cold water with mild detergent. Air dry only, do not heat dry. Regular cleaning if the brace is recommended. All foam may be trimmed. Always consult your physician or therapist before making changes to the brace.

**WARRANTY:** DJO, LLC will repair or replace all or part of the unit and its accessories for material or workmanship defects for a period of six months from the date of sale.

**INTENDED FOR USE ON A SINGLE PATIENT.  
RX ONLY  
LATEX FREE**



## **Nerve Block Education Sheet**

Prior to your surgery you will be given the option to have a nerve block as part of your post-operative pain management plan. This information should be used as general education; your anesthesiologist will review specifics prior to your surgery

### **What is a Nerve Block?**

A nerve block is the injection of numbing medication (local anesthetic) near specific nerves to decrease your pain during and after surgery. Nerve blocks are completed before your surgery at the bedside in the preoperative area of the surgical center or New England Baptist Hospital.

### **Why should I have a nerve block?**

A nerve block decreases your pain during and after surgery. Because you have less pain, you may require less oral pain medication during the early post-operative period.

### **Is a nerve block safe?**

Like general anesthesia, nerve blocks involve some minor risks. The risk of infection is very low as the procedure is done in a sterile manner. There is an extremely low risk (<0.1%) of injury to nerves, and this is usually temporary.

### **Will having a nerve block hurt?**

Nerve blocks involve placing a needle smaller than an IV near the nerves that supply the part of your body being operated on. You will feel a little pinch followed by some minor pressure. Sedation can be used to decrease the discomfort of the procedure if needed.

### **How long will the nerve block last?**

The duration of a nerve block can vary significantly. On average pain relief/ numbness of the extremity will last between 8 - 12 hours.

### **How is the block done?**

The nerve block is performed by your anesthesiologist. The nerve block is usually performed under ultrasound guidance.

### **How long will the block take?**

Usually a single nerve block takes 5-10 minutes to perform. It takes another 15-20 minutes for onset of the nerve block. We always make sure the block is working before you go into the operating room.



## Post-op Rehabilitation Protocol – ACL Reconstruction

Progression through the phases of rehab is based on functional criteria rather than simply duration of time from surgery

**Phase 1 (Weeks 0-2) Goals:** Minimize effusion, maintain full terminal knee extension, Flexion to 120°, Normalize gait pattern/balance and proprioception abilities, No lag SLR

Treatment plan:

- 1) Swelling Control with ice and compression wrap
- 2) Maintain full knee extension – Low load, long duration
- 3) Initiate quadriceps and hamstring muscle activation and general leg control
  - Quad setting, SLR, heel slides, isometric hamstring/quadriceps contraction
  - Ankle pumps
- 4) WBAT with crutches

**Phase 2 (Weeks 2-6) Goals:** Full knee ROM in extension and flexion, progress quadriceps/hamstring strengthening, good patella mobility, independent mobility

Treatment plan:

- 1) Continue with swelling control
- 2) Full knee ROM (half to full revolution on exercise bike)
- 3) CKC program – wall squats
- 4) Neuromuscular training – Wobble board, Rocker board, Single leg stance
- 5) Balance and Proprioception
- 6) Independent ambulation

**Phase 3 (Weeks 7-12) Goals:** Full lower extremity strengthening/conditioning program, Agility and Plyometric drills, Full activity in gym

Treatment plan:

- 1) Progress CKC strengthening – lunges/ reverse lunges/ single leg squats
- 2) Full ROM – Full revolution on bike
- 3) Progress dynamic balance training
- 4) Running when cleared by surgical team

**Phase 4 (Month 3-6) Goals:** Agility and Plyometric drills, sport-specific training

Treatment Plan:

- 1) Progress lower extremity strengthening and control
- 2) Plyometric drills including lateral movements, quadrant exercise
- 3) Sports specific strengthening and conditioning – Agility work
- 4) Treadmill/bike light jogging
- 5) Transition to self directed exercise program

**Phase 5 (Month 6 -) Goals:** Continue with home exercise program to maintain strength of lower extremity. Return to sports of choice and independent gym activity.

Treatment Plan:

- 1) Progress plyometric and agility training
- 2) Progress sport specific training
- 3) Fit for functional stability knee brace as needed

## Post-op exercise program until formal physical therapy is started

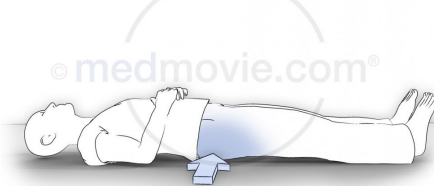


### Ankle Pumps

*Bend ankles to move feet up and down, alternating feet.*

### Gluteal Set

Keep legs straight and squeeze your buttocks together. Feel buttock muscles tighten and hold each contraction for 5 seconds.



### Quadriceps Exercise:

Sit with your leg straight and supported on the floor or a firm bed.

Tighten the muscles on top of your thigh by pressing the back of your knee flat down to the floor.

Hold for about 6 seconds, then rest for up to 10 seconds.

Do 10 repetitions several times a day.



### Straight Leg Raise:

Lie on your back with your good knee bent so that your foot rests flat on the floor. Your injured leg should be straight. Tighten the thigh muscles in the injured leg by pressing the back of your knee flat down to the floor. Hold your knee straight.

Keeping the thigh muscles tight, lift your injured leg up so that your heel is about 30 centimetres off the floor.

Hold for about 6 seconds and then lower slowly. Do 10 repetitions, 3 times a day.

## Frequently Asked Questions:

- 1) When can I start Physical Therapy?  
You can start physical therapy during the first week of surgery. You may want to call one to two weeks prior to the surgery to make the initial PT appointment. At BSSC, we do have a preferred Physical therapy list which may be accessed online or by calling one of our staff members.
- 2) How long should I ice for?  
You should anticipate joint swelling for the first 6-8 weeks, during this time ice is critical.
- 3) How long do I need to use the crutches/ brace?  
Use these assistive devices until review at the first post-op appointment.
- 4) Should I expect any superficial peri-incisional numbness?  
Anytime the skin is incised you should anticipate numbness around the incision.
- 5) How long will I need to participate in Physical Therapy?  
This varies patient to patient. In general you should participate in physical therapy till all therapy goals are achieved. These goals will be established by the Physical Therapist. On average this is by 3 months.
- 6) I have clicking in my knee, is this normal?  
It is not abnormal to experience painless clicking of the knee after a knee arthroscopy. This is often a result of scar tissue or arthritis and is generally normal after surgery
- 7) When can I drive?  
You can drive when you have full control of your leg and are no longer using narcotic pain medication.

If you have any further questions please call our office.

### Contact Information:

Boston Sports and Shoulder Center General Number: (617)-264-1100

Loddie Mosley: 617-264-1100 ext 305

Boston Out-patient Surgical Suites: (781) 895-4901

New England Baptist Hospital: (617) 754-5800



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## **HIBICLENS SCRUB**



IN AN EFFORT TO MINIMIZE THE RISK OF INFECTION, IT IS IMPORTANT THAT YOU WASH WITH THE HIBICLENS WASH **THE NIGHT AND MORNING BEFORE YOUR SURGERY.**

WE HAVE PROVIDED YOU WITH THE 15ml WASH.

### **INSTRUCTIONS WHEN YOU SHOWER**

1. If you plan to wash your hair, do so with regular shampoo, then rinse hair and body thoroughly to remove residue.
2. Wash your face with regular soap and water
3. Thoroughly rinse your body with warm water from the neck down.
4. **APPLY THE HIBICLENS WASH AS YOU WOULD ANY OTHER LIQUID SOAP TO THE FRONT AND BACK OF THE KNEE. ALLOW TO SIT FOR 2 MINUTES. WASH GENTLY.**
5. Rinse thoroughly with warm water.
6. *DO NOT use regular soap after that.*
7. *DO NOT apply lotion or deodorant after the HIBICLENS wash.*

### **WARNINGS:**

- HIBICLENS is not to be used on head, neck, or face. Keep out of eyes, ears, and mouth
- HIBICLENS is not to be used in the genital area
- HIBICLENS is not to be used on wounds
- HIBICLENS is not to be used if you are allergic to chlorhexadine gluconate or any ingredients in this preparation
- See HIBICLENS label for full product information and precautions