BEAR® Implant

PATIENT POST-OPERATIVE INSTRUCTIONS

69 Milk Street, Westborough, MA 01581
(800) 590-6995 | www.**miachortho**.com
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Miach Orthopaedics

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Instructions for Surgical Team:
Please provide this document and the BEAR® Implant Rehabilitation Protocol to the patient and/or parent/guardian following surgery.

Find a BEAR-trained Physical Therapist Near You

Date of surgery: _____

Name of patient: _____

Additional procedure? ☐ Yes ☐ No

Name of operating surgeon: _____

Contact for operating surgeon: _____

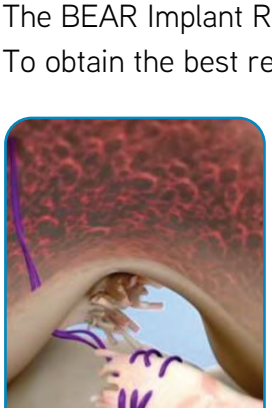
Notes: _____

Introduction

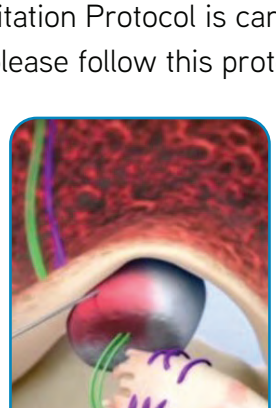
Congratulations, you just received the BEAR® Implant. Below are the important things you need to know and do as you progress through the stages of ACL healing and rehabilitation. Please note these are guidelines and may be modified by your operating surgeon.

What you need to know

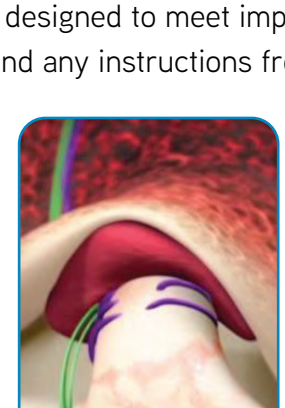
1. **The BEAR procedure is different than ACL reconstruction (ACLR)**. The BEAR Implant and Procedure are designed to help your body restore your own ACL, not replace it.
2. Following the BEAR Procedure, your body will be working hard to replace the BEAR Implant with your own ACL tissue. During this time your new ACL is delicate, so attention should be given to protecting your injured knee.
3. The BEAR Implant Rehabilitation Protocol is carefully designed to meet important rehabilitation goals. To obtain the best result, please follow this protocol and any instructions from your surgeon.



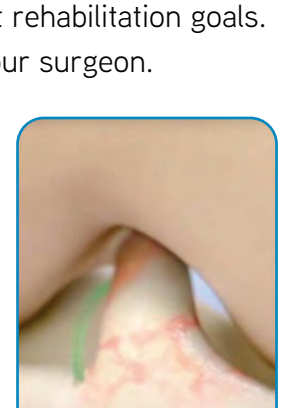
Torn ACL



Surgeon adds patients own blood to the BEAR Implant



Surgeon inserts the BEAR Implant between torn ends of ACL



As ACL heals, the BEAR Implant is absorbed by the body, usually within eight weeks

What you need to do

1. **Ensure your physical therapist (PT) receives the BEAR Implant Rehabilitation Protocol.**
2. **Schedule your first physical therapy visit within the first week after your surgery.** At this visit your physical therapist will review and provide instruction for your Home Exercises.
3. To meet your range of motion (ROM) goals, **begin the Home Exercises within the first week after your surgery.**
4. **Carefully read and follow the instructions** in the pages that follow.
5. If you have any **questions or concerns, please contact your surgeon's office.**

After Surgery Instructions For Patients

There are clinical scenarios when your surgeon may alter your specific rehabilitation protocol. For example, in the case of a secondary procedure to the BEAR® Implant, such as a meniscal repair or additional ligament reconstruction or repair. In these cases, please follow the instructions you receive from your surgeon/surgical team

Cryotherapy and Elevation

- Keep your operative leg elevated and apply cold compression for the first 24 hours or until post-operative swelling is controlled. Apply cold compression device once every waking hour for 15 minutes.
- After that period, apply the cold compression device 3 times per day for 15 minutes.
- Do not sleep with automated device running while on your knee.
- Keep a layer of fabric or ace wrap between skin and icing device at all times.

Crutch Use Instructions

- Beginning the day after surgery, you will be partial weight bearing (PWB) with crutches while walking and standing.
- Your goal is to be able to put half (50%) of your total body weight on your operative leg without pain.
  - *For example, if you weigh 150 lbs, your goal is to put 75 lbs of weight on your operative leg while standing and walking. Ensure you do not exceed 50% of your body weight in the first weeks.*
- Under the direction of your physical therapist and operating surgeon, you may begin to wean off crutches at 4 weeks; some people may take longer. Follow the instructions provided by your PT to do this safely.

Knee Brace Instructions

- Keep your brace locked fully straight (zero degrees) for the first 24 hours after surgery or until 1st post-op surgeon visit (typically 2 weeks) for adolescents and children.
- Once your brace is unlocked after surgery, allow your knee to bend to the specified degrees listed in the chart below during non-weight bearing activities (sitting activities) such as watching TV, riding in car, sitting at computer, eating meals, and while performing your rehab exercises at home and with your PT.
  - Gaining and maintaining your knee's range of motion (ROM) is important for leg strength, gait, and stability.
- During this time also continue to work on getting your leg fully straight (see leg exercises below).
- Caution: To protect the healing ACL, your PT should not force your knee into a flexed position.

After Surgery Instructions For Patients Cont.

Time Frame	Brace Range Setting	Instructions
First 24 hours	Keep brace locked at **zero degrees**	Keep your brace locked at zero degrees until 24 hours after your surgery.
1 day after surgery to 2 weeks	Set your brace range **0 to 45 degrees**	Set your brace so that it allows your knee to bend from fully straight to 45 degrees while non-weight bearing and performing rehab exercises Lock your brace at zero for sleeping and walking outside of physical therapy for the **first 4 weeks**
Weeks 2-4	Set your brace range **0 to 90 degrees**	Set your brace so that it allows your knee to bend from fully straight to 90 degrees while non-weight bearing and performing rehab exercises Lock your brace at zero for sleeping and walking outside of physical therapy for the **first 4 weeks**
Weeks 4-6	**PT will advise**	Your PT and surgeon will evaluate your ROM and provide further instructions At 4 weeks, the brace is no longer required for sleeping
After week 6	**PT will advise**	Dependent upon your progress, your PT and/or surgeon may advise moving to a functional knee brace after week 6

Note: The Instructions above are for adults and adolescents only. For children with open physes, please refer to page 2 of the BEAR Implant Rehabilitation Protocol for appropriate modifications.

Glossary of Terms

- **Flexion/Extension:** Leg bent/leg straight
- **Partial Weight Bearing (PWB):** Only putting a portion of your body weight on your operative leg (example: half your body weight (50%) on your surgical leg)
- **Range of Motion (ROM):** The measure of flexion and extension for a specific joint
- **Passive Range of Motion (PROM):** An external force provides manual pressure to move your joint for you. You are not actively contracting your muscles to bend or straighten your knee (example: your PT manually bends your leg)
- **Active Range of Motion (AROM):** Use your own muscles to bend and straighten your leg (example: you bend your leg to achieve a 60-degree bend)

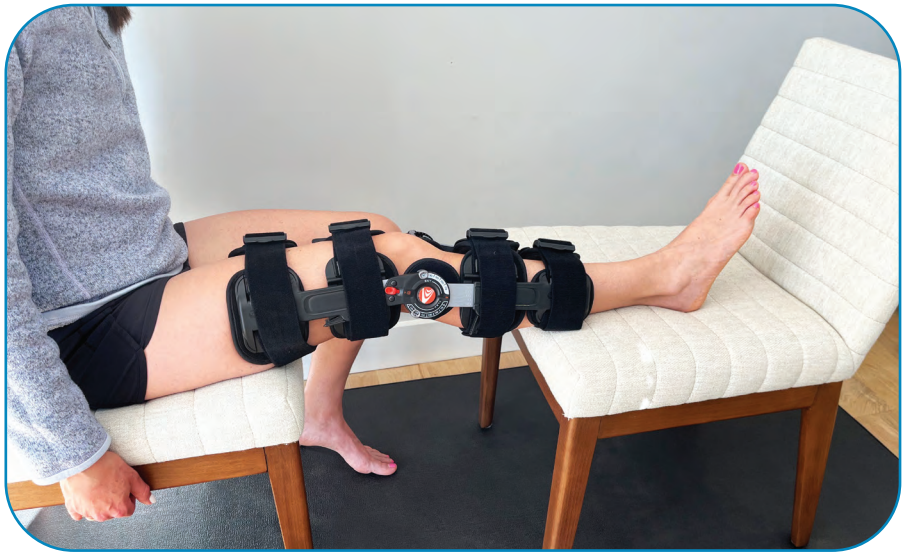
Home Exercises - Knee Straightening Exercise

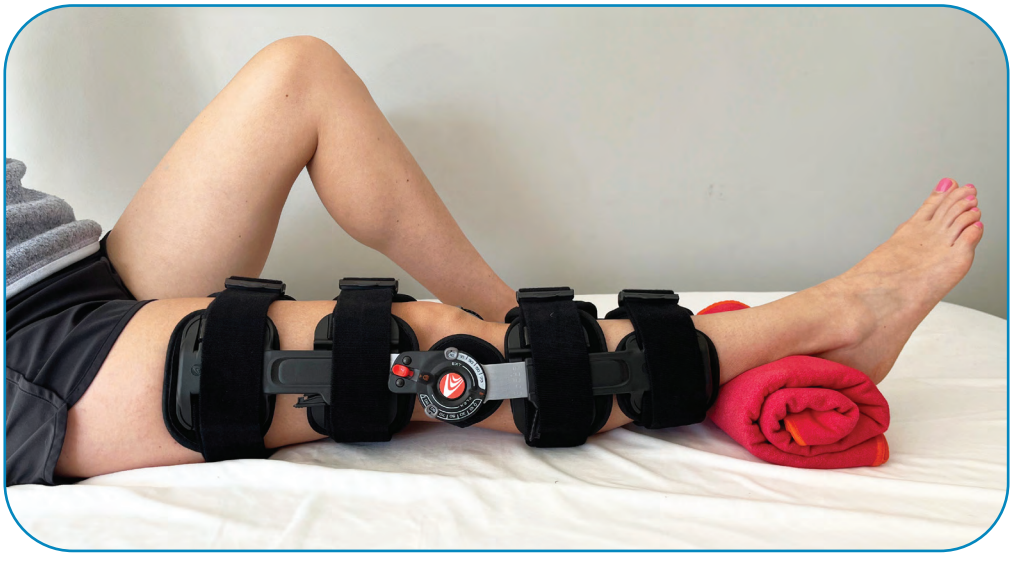
Begin Within the First Week After Surgery

Wearing your brace set to the specified degrees, perform the following exercise.
You can do this in one of the following two ways.

1. Sit in a chair and rest the foot of your operative leg on an adjacent chair. Then gradually let your leg relax so that you feel a gentle stretch on the back of your knee.
2. Put a small roll, pillow or rolled towel under your ankle so the back of your leg is lifted off the bed or floor. Then gradually let your leg relax so that you feel a gentle stretch on the back of your knee.

You should not push on the top of your knee or force your knee manually, just allow the weight of your leg to do the work. **Do this two times per day for 4 to 5 minutes at a time.**





Home Exercises - Wall Slides

Begin Within the First Week After Surgery

Lie on your back with the foot of your injured leg on the wall. Let your foot slide down causing your knee to bend. Depending on your time out from surgery, use the chart above to flex your knee to the specific degree range (45, 90, or >90 degrees). Keep your knee in this position for 5 to 10 seconds. Do not flex your knee past the specified degree range in the chart.

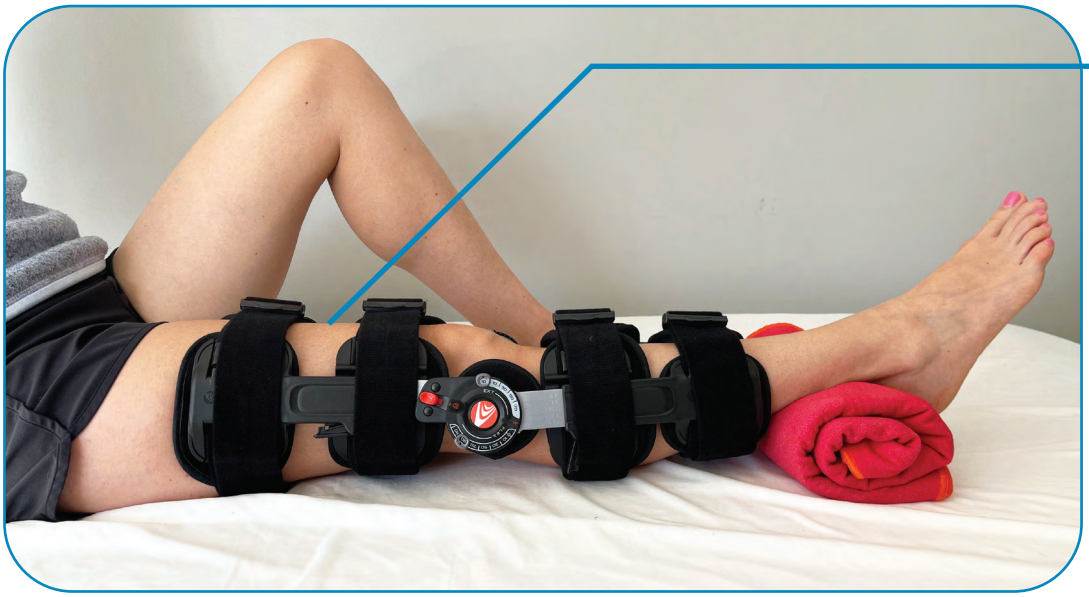
Do 1 to 2 sets of 10 repetitions with a 5 to 10 second hold, at least 2 times per day.

Home Exercises - Quad Set / Isometric Contraction Exercise

Begin Within the First Week After Surgery

While lying flat on a bed or floor with knee straight, place heel on a rolled towel. Heel must be high enough so that your thigh and calf are off the bed or floor. Tighten your quadriceps muscles on the front of your thigh by pressing your knee down into the bed or floor. Hold this position (muscle contraction) for 10 seconds, then release. To properly perform this exercise, hold the above position for 10 seconds for 3 sets, do this 10 times.

Do 3 sets of 10 repetitions, 2 to 3 times per day.



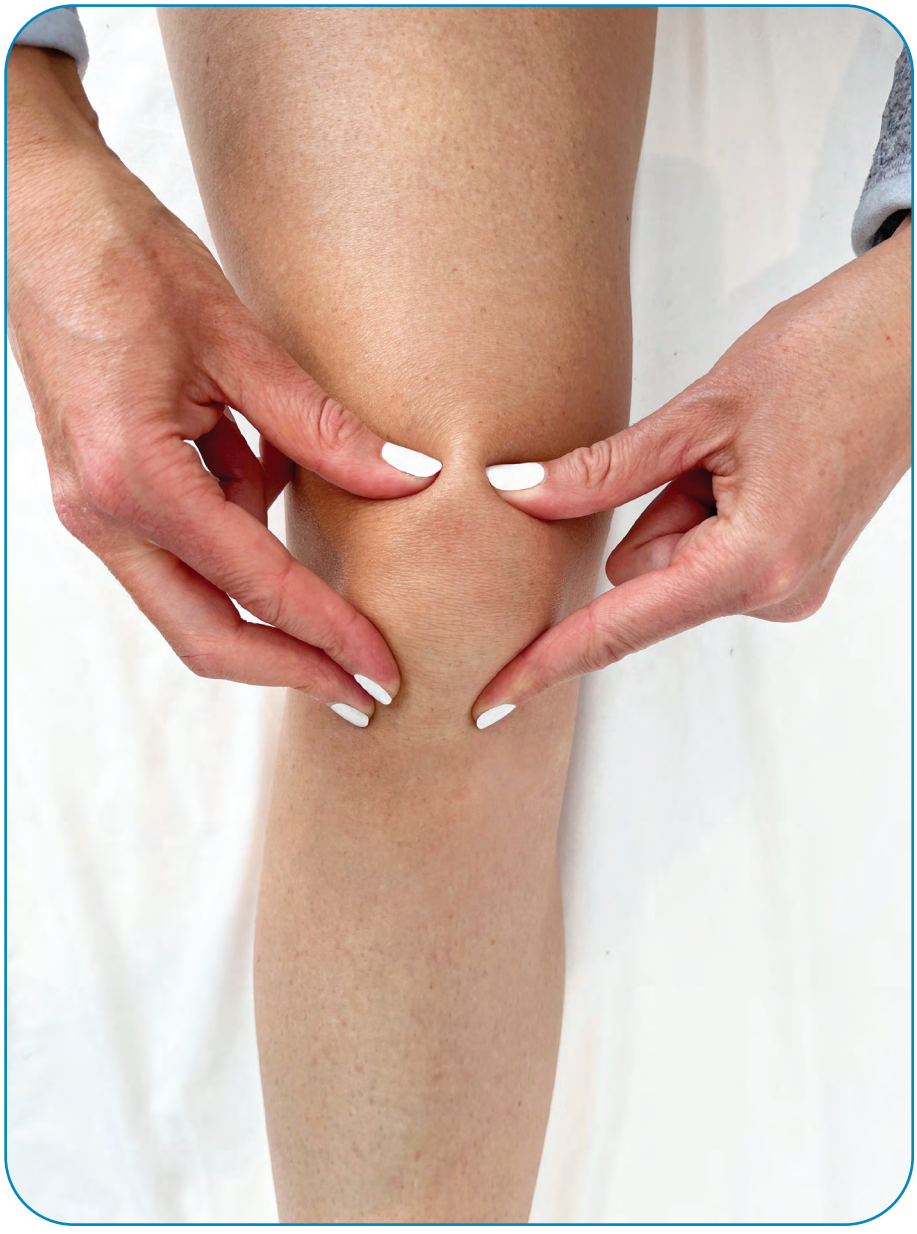
Your quadriceps are a group of muscles on the front of the thigh located above your knee. They are responsible for extending your leg and helping with movements such as walking and jumping.

If comfortable doing so, you may remove your brace for this exercise only, then put it back on immediately after.

Home Exercises - Patellar Mobilizations

Begin Within the First Week After Surgery

Manually move patella side to side and up/down using your hands.
Repeat for 1-2 minutes 3 times per day.



Frequently Asked Questions

After BEAR Implant surgery, patients often have questions about when they can resume everyday life activities, such as driving or going up and down stairs. While exact timing is based on your individual rehabilitation progress, there are general guidelines for when you can expect to get back to these activities.

1. When can I travel on an airplane?

Timing: No restrictions

There are no restrictions on air travel after surgery. In fact, many patients have flown across the U.S. or from another country to have the BEAR Implant procedure, and then they have returned home shortly after surgery. However, the bracing and load bearing restrictions may make flying uncomfortable. Here are some considerations for traveling on an airplane in the first six weeks after surgery:

- **Sitting:** Depending on your time out from surgery, you can unlock your brace between 45 and 90 degrees, so you'll be able to put your leg under the seat in front of you. Keep in mind that it may not be comfortable to be confined to one position for an extended period of time.
- **Load Bearing:** You should avoid activities that require you to put more than 50% of your body weight on your knee, so you need to make sure that you are able to maneuver on your crutches and not carry heavy items, like luggage.
- **Standing:** Your leg needs to be straight with the brace on while standing and walking, so you'll need extra time to get through the airport.

2. When can I go up and down stairs without crutches?

Timing: 4-6 weeks

You'll start stair training as part of your rehabilitation right away with crutches. Your physical therapist will clear you to use the stairs without crutches once you can safely go up and down without significant pain or instability. Whether with or without crutches, you will go up and downstairs one step at a time. To ascend, place your good leg on the step, then bring your operated leg up to meet it (with the crutches, if still using). To descend, lower your operated leg (with the crutches, if still using) first, then bring your good leg down to meet it.

3. When can I drive a car?

Timing: At least 2 weeks

If you received the BEAR Implant in your left leg, you can drive a car with an automatic transmission once you are no longer taking narcotic pain relievers and you can safely get into and out of the car. Depending on the size or height of your car, you may find it difficult to get yourself in and situated with your knee brace. If you received the BEAR Implant in your right leg, you may be able to drive a car with an automatic transmission as early as 4 weeks as long as you're off narcotics, are full weight bearing without crutches, and have achieved at least 60 degrees of flexion. Not everyone feels strong enough at 4 weeks to drive, as you must have the ability and confidence to fully apply the brake, so it's best to discuss your individual progress with your physical therapist.

Frequently Asked Questions

4. When can I play sports?

Timing: Between 9-12 months

You can return to sports once you meet all the return-to-sport criteria – typically around 9 months. Your physical therapist will conduct return-to-sport testing to ensure your knee is strong and able to perform the movements needed for your sport. Key criteria include that you feel confident when running, cutting and jumping at full speed, you can hop on your BEAR Implant knee at nearly the same level as your other knee and you are confident in the function of your knee.

5. When can I run?

Timing: Between 12-20 weeks

Straight line running as part of physical therapy on a treadmill or protected environment can begin as early as 12 weeks if you've met your rehabilitation goals to that point and been cleared by your surgeon. Running outside of physical therapy is typically on the same timeline as returning to sport.

6. When can I carry my baby?

Timing: At least 4 weeks

While you're using crutches, it is recommended that you hold your baby only while sitting. This is for the safety of the baby and so that you don't exceed the 50% load bearing restriction. You should be able to graduate off crutches starting at 4 weeks, and shortly after that you can carry heavier objects if you feel ready.

Who should you contact if you have questions?

It is common to have questions about your recovery and how your recovery is progressing. Each patient's BEAR Implant procedure and recovery are unique, so contact your surgical team with any questions. If they need further guidance, they will reach out to Miach Orthopaedics.

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