



Knee ACL Primary Repair FAQ

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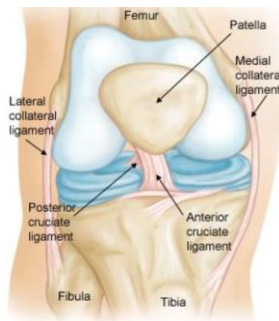
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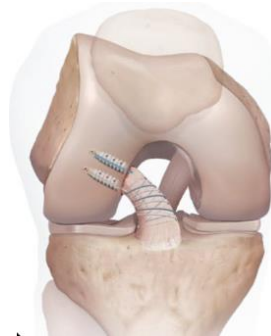
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Q: WHAT IS ACCOMPLISHED DURING THE PROCEDURE?

- ACL primary repair is a procedure which involves repairing the patient's own injured ACL. This is different from a reconstruction, which is when tissue from a different location is used to make a 'new' ACL.
- In cases where the ACL is injured at or near its attachment to the bone, it may be possible to repair the original ACL back to the bone. This depends on the quality of the remaining ACL tissue however.
- In cases where the ACL is injured in the center of the ligament, repair is typically not possible and reconstruction will typically be chosen/recommended.
- It is not possible to tell for sure prior to surgery if a repair will be feasible. Dr. Hess will need to look at the injured ACL during surgery and determine if an ACL repair is possible/appropriate. If it is possible, repair will be performed (if agreed upon ahead of time). If it is not possible, typically Dr. Hess will proceed with ACL reconstruction at the same surgery with a graft that is agreed upon ahead of time.
- ACL primary repair surgery involves placing stitches in the injured ACL and using a plastic anchor to reattach the ACL back to the bone where it tore away. Sometimes a strong stitch is added as an 'internal brace' to protect the healing ligament. Dr. Hess will decide if this 'internal brace' is needed during the time of surgery.



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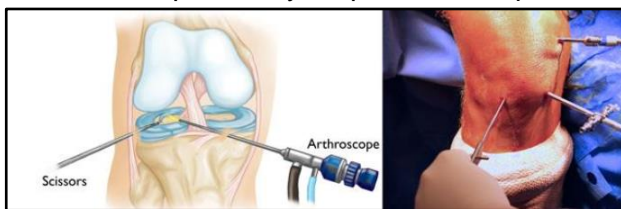
Q: WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF ACL PRIMARY REPAIR?

- ACL primary repair has several proposed advantages:
 - It uses your own ACL tissue; therefore, it does not require taking tissue from elsewhere in the body or from a cadaver to make a 'new' ACL as is done in an ACL reconstruction.
 - It is a relatively smaller surgery than an ACL reconstruction, with no large tunnels being made in the bone (as is done in reconstruction cases). This typically creates less swelling and inflammation, and as a result decreases pain after surgery. Most patients who have an ACL primary repair recover their range of motion more quickly and have less pain after surgery when compared to ACL reconstruction patients.
 - There are nerve fibers within your ACL that are thought to help with sensing the position of the knee. It is possible that repairing the ACL preserves these nerves, something that is not possible with ACL reconstruction.
 - If the surgery fails and the ACL re-tears, the next recommended surgery is typically an ACL reconstruction, which is identical to a first-time ACL reconstruction (meaning the ACL primary repair doesn't make any future surgery more complex).
- ACL primary repair also has limitations:
 - The ability to repair the ACL is not known until surgery, so in most cases we won't know if a repair is able to be performed until we are actually in surgery. Often, we can use the MRI to assess if a patient is likely to be a good candidate for repair, but the MRI does not tell us definitively if a repair is possible.
 - ACL primary repair is not possible in all cases of ACL injury.
 - ACL primary repair surgery has not been performed in its current form for very long (around 5 years), and because of this the available long-term data is limited. The available data, however, is very promising and shows a failure rate very similar to the failure rate of ACL reconstruction (approximately 5%).
 - Because of the limited data available currently, Dr. Hess mostly prefers to recommend ACL primary repair in 2 groups of people:
 - 1) Very young athletes with open growth plates (approximately 13-14 years old and younger)
 - 2) Patients who are approximately 30 and over who do not perform frequent jumping/pivoting/cutting activities
 - However, ACL primary repair may be considered in any patient with an ACL injury depending on specific circumstances.
 - Presently, there are no available large studies of ACL primary repair in competitive athletes. As such, data regarding a comparison in function after surgery in ACL reconstruction and ACL primary repair patients in this group is unclear.

Q: HOW DOES THE SURGEON SEE AND PERFORM WORK IN THE KNEE?

- Surgeons use a small camera (called an arthroscope) and small tools to work inside the knee. The camera and tools are inserted through small incisions just below the kneecap. Various tools are used to complete the operation.

- The arthroscope is used to perform work inside the knee including repairing the ACL, examining the rest of the knee for any damage, and performing any additional repairs or procedures if needed.
- The location of additional incisions will vary depending on the specifics of the surgery. Sometimes with certain injuries, additional incisions will be needed. Some parts of the surgery may be performed with the arthroscope while other parts may be performed 'open'.



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Q: WILL I NEED TO STAY OVERNIGHT AFTER SURGERY?

- No. An ACL primary repair is performed as an outpatient surgery. You will arrive approximately 1.5 - 2 hours prior to your procedure. Typically, you will be able to return home about two hours after your surgery is over. Please ensure someone comes with you to surgery who will be available to drive you home. If you are a minor, your parent / legal guardian must be present the day of your surgery.

Q: HOW LONG DOES THE SURGERY TAKE?

- Approximately 30-60 minutes. Surgery time may vary slightly based on the complexity of your injury and the procedures required. Dr. Hess will spend the required time to ensure any identified reasons for your symptoms are addressed. In addition to the ACL primary repair, sometimes other procedures are needed at the time of surgery including meniscus repair or partial removal, procedures to address damage to surface cartilage, or to correct damage to other ligaments. These additional procedures will add time to the surgery.

Q: ARE THERE RISKS INVOLVED WITH HAVING SURGERY?

- Yes. Every medical procedure has certain risks. Some risks are present with any surgery, including those associated with anesthesia (heart attack, stroke, respiratory distress or failure), and some are more specific to the procedure being performed. Risks of ACL primary repair include, but may not be limited to: infection, damage to blood vessels or nerves (causing numbness, tingling, burning, or weakness), blood clots (deep vein thrombosis or pulmonary embolus), stiffness of the knee (which can require additional surgery in some cases), iatrogenic injury (injury to structures caused by the surgery), scarring, and residual pain or discomfort.
- There is also the possibility that the repaired ACL can re-tear. This risk varies depending on the age of the patient and sports in which they participate. It is possible that additional surgery may be recommended/needed if you reinjure your knee.
- Having an ACL injury does appear to increase your risk of developing arthritis in the injured knee down the road. This risk is increased whether or not surgery is performed to repair/reconstruct the ACL.
- Some complications after surgery are uncommon and can't be predicted in advance.

Q: WILL I NEED TO USE CRUTCHES AFTER SURGERY?

- Yes. Crutches are typically recommended for approximately 1-2 weeks after surgery. Most commonly after an ACL primary repair, Dr. Hess recommends that you bear 50% of your weight or less on the surgical leg using crutches until you begin physical therapy. Once physical therapy begins, your therapist will help you figure out when it is safe to bear more weight and when to discontinue the use of crutches.
 - This typically requires that you have good control of the quad (thigh) muscle, which can take some time.
- The main goal is to prevent injury to the surgical knee during the early recovery phase. Most patients are off crutches at or around the time of the first follow-up visit after surgery (2 weeks), but some may still require them at that time. Don't worry if you need crutches longer than 2 weeks- remember that everyone's recovery is different.
- In some cases, if more extensive work is done on the knee, crutches may be recommended for 6 weeks after surgery with weight-bearing limited to only resting your foot on the ground (called toe-touch weight-bearing).

Q: HOW LONG IS THE RECOVERY AFTER AN ACL PRIMARY REPAIR?

- This depends on how we define 'recovery'.
- Also, every individual patient's recovery is different, and may require more or less time than expected.
- Most patients are off crutches around 1-2 weeks after surgery.
- Most patients can return to school, light duty or sedentary work around 1-2 weeks after surgery.
- More strenuous work may require more time to return, with the specific time to return depending on the duties of your job.
- A brace is recommended for 6 weeks following surgery.
- Most patients begin jogging around 3-4 months after surgery.
- Most patients begin lateral movement and agility training around 4-5 months after surgery.
- Return to sports is a difficult decision and is highly variable. Most commonly, patients need around 9 months to return to full sports participation, with some returning sooner and others later.
- Return to sports activities takes time. Muscles must gradually learn to adapt to higher impact, twisting, accelerating, and decelerating forces. This should not be rushed.
- Currently, there is no difference in Dr. Hess's rehab protocol or timelines between ACL reconstruction and ACL primary repair.

Q: WILL I NEED A BRACE AFTER SURGERY?

- Yes. A brace is recommended and usually provided by Dr. Hess's office prior to surgery.
- This should be worn essentially full time (except for time spent at therapy, doing home exercises, and bathing) for the first two weeks.
- After the first two weeks, you can sleep without the brace if you prefer. However, if you get up in the night, it is recommended that you put the brace on. The ACL is not strong for the first several weeks after surgery, and any slip or fall can possibly cause damage to the healing ACL.

- Many people ask about a brace for returning to sports. At this time, the majority of the available data shows no difference in re-tear rate after returning to sports when athletes are wearing a brace after surgery when compared to not. As such, a sports brace is not routinely prescribed after ACL surgery. However, some patients feel they would be more confident with a brace, and a brace can be prescribed in certain cases. Insurance often does not cover this extra brace, which is different than the brace used at the time of surgery, and they typically cost around \$900-\$1000.
- There is currently no available data specifically regarding bracing after return to sports following ACL primary repair.

Q: WILL PHYSICAL THERAPY BE NEEDED AFTER ACL REPAIR?

- Physical therapy is HIGHLY recommended after ACL surgery, as there are many important things to monitor and consider during recovery.
- Physical therapy will begin within 1 week after surgery.
- After surgery and prior to formal therapy beginning, you should make sure to spend some time out of the brace with the knee fully straight for 10-15 minutes 2-3 times per day.
- The duration of physical therapy will be different for each patient, but will typically last several months and involve progressive activities and exercises prescribed as you recover. Initially, the visits are twice per week. This may change over the course of your recovery.
- The assessment of the physical therapist is a very important component when deciding if it is okay to return to sports.

Q: WHAT MEDICATIONS WILL BE PRESCRIBED AFTER SURGERY?

- Pain relievers will be prescribed after surgery. These are typically not needed beyond 7-10 days after surgery. You should plan on not using narcotic pain relievers longer than 2-3 weeks after surgery.
- Tylenol and/or ibuprofen/naproxen can be used once narcotics are no longer required.
- The pain medication will not completely prevent any pain. It is normal and appropriate to have some pain after surgery. The goal of using medication should be to make pain tolerable, not to eliminate all pain.
- The following is a complete list of medications prescribed after surgery, and the purpose of the medication. Other medications may be prescribed on occasion.
 - Norco/Percocet –Taken as needed no more than every 4 hours for pain.
 - Zofran – Taken as needed for nausea/vomiting.
 - Aspirin- Taken to decrease the risk of blood clot. This should be taken once per day for 6 weeks after surgery.

Q: HOW MUCH PAIN AM I GOING TO HAVE AFTER SURGERY?

- This is a common question, but one that is very difficult to answer. Every patient experiences pain differently. The same procedure may cause drastically different amounts of pain in different patients.
- Key components of controlling pain after surgery include icing the knee, taking appropriate pain medications, limiting activity appropriately, and following recommendations by the physical therapist and Dr. Hess.
- A nerve block is often placed by the anesthesia team during surgery. This block often works for several hours after surgery. As a result, your pain may be well controlled initially, but may increase after the block wears off up to 2 days later. This is a normal part of the block wearing off, and shouldn't be cause for concern in most cases. When you start to feel tingling in the leg, this is an indication that the block is beginning to wear off. This is a good time to begin taking pain medication.
- If there are concerns about pain control, please bring them up with Dr. Hess prior to surgery or call his patient care coordinator after surgery. Dr. Hess can return phone calls if needed.

Q: WHEN WILL I HAVE FOLLOW UP APPOINTMENTS AFTER SURGERY?

- Follow up appointments after surgery are important to monitor your progress, assess any limitations or setbacks, and to plan your continued care. Typically, you will be seen at the following intervals:
 - 2 weeks, 6 weeks, 3 months, 5 months, 7 months, 9 months, 1 year.
 - Additional appointments may be recommended in certain situations.

Q: WHEN CAN I BEGIN DRIVING AFTER AN ACL REPAIR?

- Two important criteria exist to begin driving after an ACL primary repair:
 - 1) You must be off narcotic medications for a full 24 hours prior to driving.
 - 2) You must be safely able to move your foot from the gas pedal to the brake pedal without delay or hesitation. The following guidelines apply only for automatic transmission vehicles.
- For right ACL primary repair, it is recommended to wait until at least 6 weeks from surgery to drive.
- For left ACL primary repair, you may drive once off narcotic pain medications.

Q: WILL AN ACL REPAIR ALLOW MY KNEE FULL RANGE OF MOTION ONCE RECOVERED?

- In most cases, range of motion of the surgical knee recovers to full motion, or very close to the uninjured knee. However, as discussed above, stiffness is one of the associated risks.
- Physical therapy is critical in preventing and treating stiffness of the knee after ACL primary repair. Most cases of stiffness can be improved by therapy and home exercises.
- However, some cases of stiffness after ACL surgery can be especially difficult to treat. In about 5% of ACL surgeries, special braces or additional surgery may be required to allow the knee to bend further or completely straighten.

- Complete extension (straightening of the knee) is extremely important after ACL primary repair. Your therapist will work hard with you to make sure you achieve full extension as quickly as possible after surgery.
- It is important that you also spend time every day (outside of formal therapy) during early recovery doing the prescribed exercises to improve your range of motion.

Q: WHAT DO I DO WITH THE DRESSINGS AFTER SURGERY?

- It is recommended that you leave the surgical dressings in place, undisturbed for 2-3 days after surgery.
- Following this the ACE bandage, cotton padding, and gauze dressings can be removed. Leave any steri-strips that are present in place. The incisions can be covered with waterproof band aids for showering. Do not submerge the wounds under water (including baths, lakes, pools or hot tubs) until they are completely healed (typically 2-3 days after removal of the stitches).
- The band aids should be changed daily or as needed.
- Some minimal drainage is expected after surgery. If there is more significant drainage, please notify Dr. Hess.
- The ACE bandage or a knee sleeve can be used as desired after removing the post-op dressings.

Q: WILL I BE ABLE TO RETURN TO THE SAME SPORTS AFTER SURGERY THAT I WAS DOING BEFORE SURGERY?

- In most cases, yes. This can depend on the age and activity level of the patient and the specific sports they are trying to return to.
- Certainly, the goal of ACL primary repair is to restore the function of your knee to a point that you are able to participate in any activities you would like. However, in some cases pain, stiffness, residual instability, nervousness about reinjury or other factors can prevent return to some activities.

Q: WILL I GET ARTHRITIS IN MY KNEE?

- Maybe. The goal of the surgery is to correct the stability of the knee to allow it to function more normally. However, this does not change the fact that the knee sustained some damage when the original injury occurred. Most studies show that there is a higher risk of developing arthritis years later in the ACL-injured knee than the other non-injured knee. Performing ACL surgery does not appear to eliminate this risk.



Help us improve our care: What other questions would you like to have answered?
