**Q: HOW DOES AN INJURY TO THE DISTAL BICEPS OCCUR?**

- The biceps muscle in the upper arm turns into a tendon, then attaches just below the elbow to a bone in the forearm. The biceps helps flex the elbow and also helps turn the palm upward (supination).
- The biceps is a very strong muscle that typically can withstand a lot of force.
- In some cases, the attachment site of the tendon to the bone can become worn over time. Occasionally, this attachment can tear away from the bone.
- This tearing usually occurs when lifting something heavy, particularly when the elbow is forced to quickly straighten against heavy weight.
- Patients often feel a sudden ‘pop’ or ‘rip’, have immediate pain and often develop significant bruising in the days following the injury.
- It is often painful for patients to try to lift anything with the injured arm.

**Q: HOW WILL I KNOW IF I’VE INJURED MY BICEPS TENDON? DO I NEED SURGERY?**

- There are a number of injuries that can appear similar to a distal biceps rupture.
- In the majority of cases, the biceps muscle will have a different appearance on the injured side than the uninjured side. It will often look as though there is a tennis ball that is closer to the top of your arm than usual. This typically means the tendon has completely torn.
- In some cases, the tendon can tear partially, and the muscle contour may appear normal.
- Prompt evaluation by an orthopedic surgeon is recommended, as waiting too long can make repair difficult.
- An exam can often be diagnostic, but xrays and an MRI are often also obtained to confirm the
suspected diagnosis.

- The majority of significant distal biceps tendon injuries are recommended to be surgically repaired. In rare cases, non-surgical treatment may be considered.

**Q: WILL I NEED TO STAY OVERNIGHT AFTER SURGERY?**

- No. Distal biceps 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 60 minutes. Surgery time may vary slightly based on the complexity of your injury and procedures required. Dr. Hess will spend the required time to ensure any identified reasons for your symptoms are addressed.

**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 distal biceps 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 elbow (which can require additional surgery in some cases), iatrogenic injury (injury to structures caused by surgery), scarring, and residual pain or discomfort.

- There is also the possibility that the elbow continues to be painful or the tendon can re-tear. This risk varies depending on the age of the patient and activities in which they participate. It is possible that additional surgery may be recommended/needed if you reinjure your elbow.

- One common complication after distal biceps tendon repair surgery is numbness and/or tingling on the thumb side of the forearm below the incision. There is a skin nerve that is very near the surgical field called the Lateral Antebrachial Cutaneous Nerve (LACN). This nerve provides sensation only, it does not affect muscle strength. This nerve is commonly stretched during surgery as it is moved out of the way. Often, this results in numbness. Most commonly, this improves on its own over weeks to months, and typically goes away completely at some point. In rare cases, some portion of the numbness can be permanent.

- There is also a motor nerve at risk during surgery called the Posterior Interosseous Nerve (PIN). This nerve controls the muscles that pull your wrist up and straighten your fingers. Rarely, this nerve can be injured during surgery as well. This is typically treated with observation and almost always improves on its own.

- Some complications after surgery are uncommon and can’t be predicted in advance.
Q: WHAT IS DONE DURING SURGERY?

- During surgery, an incision is made on the front of the elbow and the injured biceps tendon is located. The injured tendon is examined and a strong stitch is placed in the tendon.
- Using a small drill, a tunnel is then made in the bone at the normal attachment site of the tendon.
- The tendon stitch is then attached to a metal button that is pushed through the hole in the bone.
- The stitches are then pulled, which brings the injured end of the tendon back down into the bone tunnel from where it was torn.
- The incision is then closed and a dressing and splint are applied.

Q: HOW LONG IS THE RECOVERY AFTER DISTAL BICEPS 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.
- At the first office visit after surgery (usually 10-12 days after surgery), the splint is removed and the incision is examined. Any stitches that need to be removed are typically removed at this time.
- No additional brace is used in most cases after splint removal.
- 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.
- 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.

Q: WILL I NEED A BRACE AFTER SURGERY?

- No. Initially, a splint is placed after surgery. This keeps the elbow still and is used for the first 10-12 days. This should be left in place until removed at your first post-op office visit.
- After the first two weeks, no additional brace is used.

Q: WILL PHYSICAL THERAPY BE NEEDED AFTER DISTAL BICEPS REPAIR?

- Physical therapy is recommended after distal biceps repair surgery, as there are many important things to monitor and consider during recovery.
- Physical therapy will begin after your first post-op visit.
- The duration of physical therapy will be different for each patient but will typically last several weeks, with progressive activities and exercises prescribed as you recover. Initially, the visits are twice per week. This may change over the course of your recovery.
- Typically, lifting more than 5-10 pounds is restricted for at least 6 weeks after surgery.
• The assessment of the physical therapist is a very important component when deciding if it is okay to return to sports/work activities.

Q: WHAT MEDICATIONS WILL BE PRESCRIBED AFTER SURGERY?

• Pain relievers will be prescribed after surgery. These are typically only needed for less than 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 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.
  o Norco/Percocet – Taken as needed no more than every 4 hours for pain.
  o Zofran – Taken as needed for nausea/vomiting

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 area, taking appropriate pain medications, limiting activity appropriately, and following recommendations by the physical therapist and Dr. Hess.
• A nerve block is sometimes 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. 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 arm, 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:
  o 2 weeks, 6 weeks, 3 months, 5 months, 7 months
  o Additional appointments may be recommended in certain situations.

Q: WHEN CAN I BEGIN DRIVING AFTER DISTAL BICEPS REPAIR?

• Two important criteria exist to begin driving after distal biceps repair.
  1) You must be off narcotic medications for a full 24 hours prior to driving.
  2) You must be safely able to drive the vehicle with the splint/brace in place.
Q: WILL DISTAL BICEPS REPAIR ALLOW MY ELBOW FULL FUNCTION ONCE RECOVERED?

- In most cases function recovers to full, or very close to the pre-injury elbow. However, as discussed above, limited function is one of the associated risks.
- Physical therapy is critical in your recovery.
- It is important that you also spend time every day (outside of formal therapy) during recovery doing the prescribed exercises to improve your range of motion and strength, when appropriate.

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

- It is recommended that you leave the splint in place, undisturbed for 10-12 days after surgery until your first post-op office visit.
- Some minimal drainage is expected after surgery. If there is more significant drainage, please notify Dr. Hess.

Q: WILL I BE ABLE TO RETURN TO THE SAME ACTIVITIES 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 surgery is to restore the function of your elbow to a point that you are able to participate in any activities you would like. However, in some cases pain, stiffness, residual weakness, nervousness about reinjury or other factors can prevent return to some activities.

Q: CAN THE INJURY HAPPEN AGAIN?

- It is possible for an injury to the distal biceps to recur. By following the recommendations of Dr. Hess and your physical therapist, we hope to minimize these risks. Ongoing maintenance exercises are often necessary to keep the arm strong.

Q: CAN THIS INJURY OCCUR IN MY OPPOSITE ARM?

- Yes, this injury can occur on the opposite arm, though this is rare. This is typically treated in the same way as the original injury.

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