



Twincitiesshoulderandelbow.com

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Dr. Myeroff's Surgery Instructions & Expectations Elbow Surgery

Goal: The best possible outcome!

How?

- Set clear expectations so you are not surprised.
- Prepare you to best manage your pain, initiate your rehab, and plan your return to work and sport.
- Answer commonly asked questions in an easy-reference manner.
 - This document should supplement your Health Partners surgery packet
- My team and I are available to answer your questions night or day via the above contacts.

What you can expect from me

As an assistant professor at the University of Minnesota it is my job to stay ahead of the curve through close reading of the latest journals, national meeting attendance and presentations, and by utilizing my national network of surgeon colleagues. I am not content until all of your questions are answered. I aim for each patient to get the exact treatment that is right for them.

What I expect from you

Your outcome is based on 3 things:

- Me doing the right surgery well
- Your appropriate expectations
- Your commitment to the post-operative rehab and restrictions

So READ THIS PACKET to better understand my philosophy. **This is designed to supplement your Health Partners surgery packet.** Follow my rehabilitation protocols – they are based on the latest research. To that end, we appreciate your cooperation in filling out any research forms, this is how we learn how you are doing, and how we can do better. You may be exposed to surgical trainees that I teach (medical students, residents and fellows). Yes, you are helping them learn, but this keeps me fresh and up to date too and improves your care. If you have an issue or comment, please let us know first. We can only make your experience better if we hear from you!

Dr. Chad Myeroff

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Updated: January 2019

Pre-Surgery Checklist for Elbow Surgery

1 month prior:

- ☐ Read this packet to help set your expectations and understanding
- ☐ Complete a pre-operative physical, follow medication recommendations
- ☐ Make a work / home care plan
- ☐ Send us any paperwork (disability forms) your employer requires
- ☐ Set up your initial therapy appointment for the day of your first postop check
- ☐ Arrange a ride to and from surgery

1 week prior:

- ☐ Stop taking Aspirin, NSAIDs (Ibuprofen, Aleve, Naproxen), Fish Oil, and Ginkgo Biloba
- ☐ Arrange important household items so you don't have to reach up with 2 hands
- ☐ Purchase Hibiclens from your drug store (no prescription needed)

2-3 days prior:

- ☐ Wash arm for 3 days with Hibiclens (Obtained at the drugstore)

Night before surgery:

- ☐ Shower with Hibiclens
- ☐ Nothing to eat or drink after midnight
- ☐ Relax. My team and I will take great care of you.

Day of Surgery

- ☐ Shower, wash your hair (do not use any hair products)
- ☐ Do not eat, drink, smoke, or chew gum.
- ☐ Follow your medication recommendations
- ☐ Arrive at the time requested by our schedulers
- ☐ Pickup your medications from your preferred pharmacy

After Surgery

- ☐ Follow my post-operative pain protocol as closely as possible
- ☐ Elevate the elbow on pillows up over the chest
- ☐ Resume your normal medications
- ☐ Follow my post-operative elbow restrictions closely

PRIOR TO SURGERY

Great care is taken to choose the right surgical plan for you. My goal is to do the right surgery at the right time. Please keep us up to date if your symptoms or situation changes and we can adjust. Examples: Abrasions, rashes or pimples at the operative site, upper respiratory illness.

If you take Aspirin, Ginkgo Biloba, and/or Fish Oil, please stop these medications 1 week prior to surgery unless pre-arranged. These medications can cause bleeding during surgery. If you are on a blood thinner medication like Coumadin (warfarin), Lovenox or Plavix these must be stopped, please adhere to your primary doctor's pre-operative instructions.

Infection prevention is a big part of surgery. While the risk of infection after elbow surgery is low, we take every measure possible to prevent it. Hibiclens decreases the bacterial load on your skin prior to surgery.

Do not eat or drink anything after midnight the evening prior to surgery – if you do, your surgery may be cancelled. The exception is essential medications as recommended by your doctor. These can be taken with a sip of water the morning of surgery.

THE DAY OF SURGERY

- Do not eat, drink, smoke, or chew gum.
- Shower the morning of surgery.
- Arrive at the hospital or surgery center as instructed by our schedulers.
- Upon arrival you will receive medications by mouth that have been shown to reduce after-surgery pain.
- You will be offered a nerve block by the anesthesiologist prior to the surgery. They will discuss the risks. Anesthetic is injected near the nerves at the level of the neck. Because of this, the block will temporarily paralyze the entire arm and hand and comes with very small risk. This is normal!! Please do not be alarmed. The nerve block provides complete pain relief immediately after surgery for 12 hours on average. This leads to less need for pain medication during and immediately after surgery. This improves your comfort and decreases nausea and grogginess after surgery. However, there is a rebound effect of the block at 12-24 hours from injection where pain increases after the block wears off. If a nerve block is not possible I will use local anesthetic in the wound.
- You will see me prior to surgery and I will be able to answer any remaining questions.

This surgery requires a combination of general anesthetic and a regional nerve block. On the day of surgery, you and the anesthesiologist will decide on the right combination of nerve block and level sleepiness during surgery. Most patient's elect an interscaline block and general anesthesia. The block numbs your elbow and nearly eliminates your need for narcotics during surgery and for 8-12 hours thereafter. **It is important to begin taking your post-operative pain regimen when you get home so there is no surprise when the nerve block wears off the evening of surgery.**

Your surgery will take about 2-3 hours, but severe injuries can take even longer, then you will spend about 1-2 hours in recovery. Plan on spending about half of the work day at the hospital. I will speak with your companion(s) immediately following the surgery and review the images

with them. You will go home with annotated images, but don't worry, we will review them again when you see me in clinic.

Most elbow surgery is done on an outpatient basis, which means you get to go home the day of surgery!

In more severe fractures, or when you have multiple injuries, a hospital stay may be required. A benefit of this is the opportunity for medical management and early physical therapy. Based on age, health, and home support, some patients will stay in the hospital for 1-3 nights. Rarely, some patients may require a longer term stay in a rehab center to continue recovery before safely going home. If you are admitted, you will be seen by some combination of my team: myself, the orthopaedic resident physicians and CJ Larson, my Physician Assistant the morning following surgery. If you use a CPAP at night, please bring this. You will work with physical therapy. The therapists help you learn new skills and exercises and assess your appropriateness for discharge to your home. Sometimes they will decide you need more help than you have at home. If you are deemed to benefit from further assistance (rehab center, home health), the social workers will facilitate this. Expect this to evolve over the course of your hospital stay.

You should anticipate the need for help at home for the first few weeks after surgery and make arrangements for a ride home from the hospital.

AFTER SURGERY

- **Recovery:**
 - The biggest complaint patients have is an insufficient communication of the time, discomfort and rehab associated with your recovery.
 - Bone healing takes about 6-10 weeks
 - Ligament and tendon healing takes 3 months.
 - Prior to that, the bony fragments (or tendons) are prone to moving if your activity is too aggressive.
 - For this period of time you will have restrictions to protect your repair.
 - Top ways YOU can help.
 - Read this packet!
 - Set your expectations for return to work / sport appropriately.
 - Make arrangements ahead of time
 - Paperwork, work restrictions
 - Stop smoking
 - Smoking doubles your risk of the bones and ligaments not healing, doubles the time it takes to heal, and quadruples your risk of complications.
 - I recommend nicotine alternatives
 - I recommend consulting your primary doctor for consideration of Chantix, a medication that has been shown to improve your chances of quitting.
 - Close diabetes control

- Poorly controlled blood sugars severely increase your risk of medical and surgical complications especially infection
- Avoid NSAIDs (ie Ibuprofen, Advil, Aleve) for 6 weeks
 - These may prevent bone healing.
- Bone health
 - For fractures, I recommend the following medications to help healing and prevent another break:
 - Initiating over the counter supplements (Recommend Citracal Petite)
 - 1500mg Calcium daily
 - 2000 IU Vitamin D daily
 - If your fracture occurred from a low energy fall (ground level fall), it is likely you have osteoporosis (thinning of the bones) and I highly recommend and will facilitate bone health workup with labs and a DEXA scan.
 - You will have a consult with our bone health specialist (Donna Marko, NP-AG) to forge a plan to optimize your bone strength.
 - You should work with therapy on avoiding future falls:
 - Home safety evaluation
 - Cane / walker / wheelchair
 - Balance / strength training
- Your restrictions have 2 main early goals:
 - **Avoid repair failure:** Your restrictions are meant to allow safe physical therapy while preventing too much stress on your repair
 - Plates, screws, anchors and sutures are strong, but not nearly as strong as your own power.
 - **Avoid stiffness:** You should:
 - Move your fingers, wrist and elbow three times per day.
 - Elevate the elbow as much as possible over the chest on pillows while you are lying flat
 - Swelling contributes to pain, stiffness, and wound complications.
 - You will receive personalized rehab protocol. You should view this as a home exercise program. You should do your exercises three times per day.
 - Remember: Therapy is a thing you do, NOT a place you go!
 - Therapy is your homework
 - The therapist is your teacher, designed to keep you on track.
 - Be patient... be A patient!
 - You are probably eager to begin strengthening and get back to your activities, but you have to trust the process.

- You will get your strength back, it is more important you follow by your restrictions, heal your repair, and regain your motion.
- **Food:**
 - You should start with clear liquids when you get home and slowly advance over 12-24 hours as your body tolerates. I.e apple juice → apple sauce → soup → bread → full meals.
- **Care of Surgical Incisions**
 - Due to swelling and motion at the elbow, it is not uncommon for me to use a splint for up to two weeks when I think we should be cautious.
 - If this is the case, keep the splint clean and dry.
 - This may require taping a bag onto the arm while showering or taking a bath (or bird bath).
 - There are also products available at most pharmacies to assist.
 - The splint will be removed at your first post-operative visit.
 - If soft dressings are used:
 - You can remove the dressings and shower two days after surgery.
 - The Ace wrap can be unwrapped and saved.
 - Remove the soft cotton padding and / or gauze.
 - Remove all of the dressings until you see the incisions.
 - You can shower at this time. Allow water can pass over the wound and you can pat dry. Do not scrub the wound. To wash under your armpit, lean over while the arm dangles at the side.
 - After your shower, you should replace the Ace wrap under comfortable tension from the palm to the armpit to prevent swelling.
 - The wound should be dry by 3 to 5 days after surgery.
 - Please call our clinic if you have drainage, or the wound begins to appear red and more painful after this time.
 - Please do not soak in a pool or hot tub until 4 weeks after surgery.
- **Sling Care**
 - This will be fit to you at the time of surgery. If you already have a sling you prefer, please bring that on the day of surgery. It may need to be adjusted several times until it is just right.
 - The sling is utilized for several reasons and I don't usually mandate it. It is helpful while you nerve block is working and while you are in a splint. It does keep the elbow in a safe and comfortable spot especially when you are in risky situations where you may fall. I generally want you to come out of the sling sooner than later to make sure your elbow does not get stiff. The biggest reason I may continue the sling longer is if I perform a ligament repair or reconstruction in order to protect that vulnerable ligament.
- **Swelling**
 - Swelling contributes to pain and stiffness.
 - Minimize swelling
 - Wear an Ace wrap, compressive sleeve, or tubigrip stocking full time except during showers for 6 weeks or until swelling is minimal.

- Elevate
 - The elbow should be above the level of the heart as much as possible for the first 1-2 weeks
 - How to do this (Figure 1)

Elbow Elevation



1. Lay as flat as you can comfortably
2. Place one pillow doubled over next to your injured shoulder to keep your upper arm from dropping down
3. Place another pillow doubled over on your chest to support your forearm

*It helps to have your sling on

*You should be in this position most of the day for the first 1-2 weeks

*This is the only reliable way to elevate your elbow above your heart



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Figure 1 Post-operative Elbow Elevation

- Finger and elbow exercises (as indicated by your rehab protocol)
 - You need to come out of your sling 3 times a day for this purpose
 - This prevents stiffness and pumps fluid out of the arm.

Elbow Range of Motion

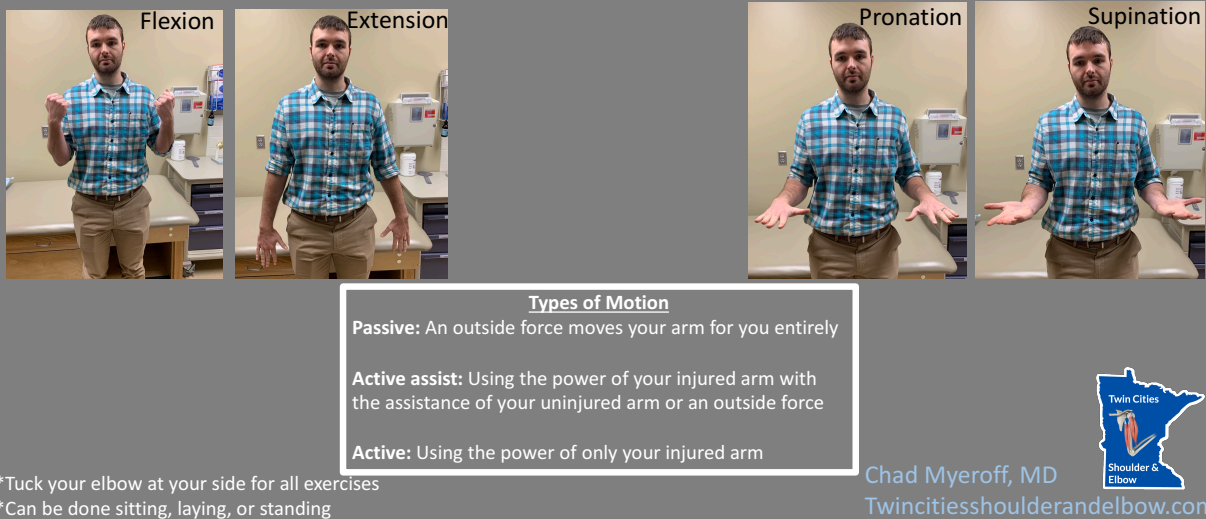
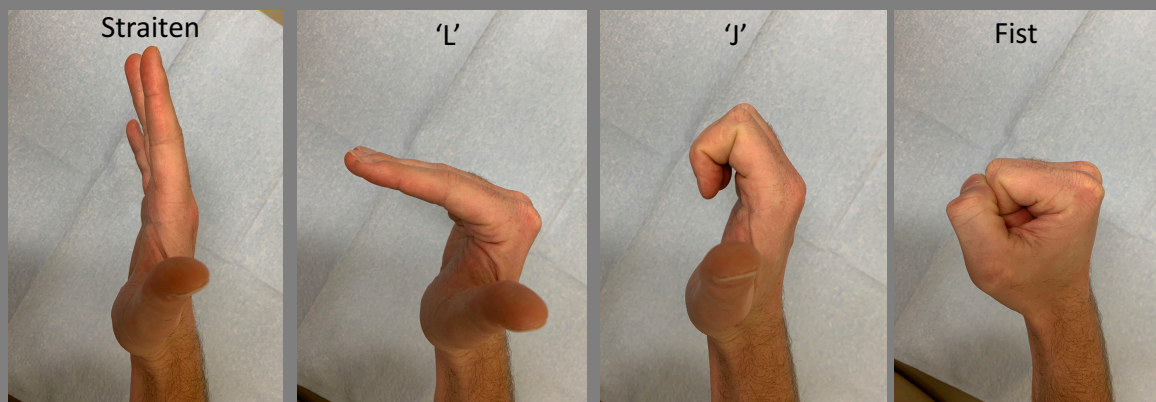


Figure 2 Standard elbow motion protocol

Finger Range of Motion



Cycle through the above motions with the assistance of your other hand

*This will prevent stiffness and swelling

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Figure 3 Finger range of motion

- **Bruising**
 - Bruising after elbow surgery is normal. It is common for the arm to turn black and blue at about 3 to 7 days after surgery. This is temporary. Don't be alarmed.
- **Sleep**

- Sleep is an expected issue after elbow surgery. This will slowly improve over the first 6 weeks.
- You can use the side-effect of your medications in your favor. Neurontin and Methocarbamol can both cause sedation and my best be taken at night for this reason.

- **Medications**

- In general, we resume all of your regular medications immediately after surgery unless they are redundant with the ones I prescribe. When in doubt, default to your pre-operative physical recommendations. I use a multimodal pain protocol - a combination of safe medications to combat pain in a variety of ways. If medically appropriate, I will prescribe all of these medications and they should be taken as directed: Some should be taken on a scheduled basis (ie. Tylenol, Gabapentin) while others should be only taken as needed (ie. Methocarbamol, Oxycodone).

- **Pain Control & Prescriptions**

- Our goal is to control and ease your pain, but surgery is simply not a pain free process.
- **ICE after surgery is must!!!**
 - **Ice your elbow for at least 20 minutes every hour while awake.**
 - This is one of the cheapest and most effective ways to limit pain. In fact, studies show regular icing leads to decreased pain weeks after surgery. While you are awake, ice your elbow for about 20 mins every hour. Even if you aren't having a lot of pain, this is a good idea for the first few weeks after the operation. Place a cloth between your skin and the ice to protect your skin and the incision.
- **Prescriptions**

Read This: This is a carefully crafted pain protocol designed to give you the best possible experience by stopping pain in multiple ways (inflammation, muscle spasm, nerve pain and classic pain). You are expected to take the below medications in the stepwise fashion as listed below to decrease the amount of narcotics you need. Ie Tylenol should be taken routinely and be the last drug stopped, where oxycodone will only be taken as needed and should not be taken longer than 2 weeks. Lower narcotic intake will keep you feeling more energized, aware, avoid dependency and constipation, and lower overall complications and the chance of chronic pain.

- 1. Tylenol 1000mg three times per day for 30 days for pain**

Tylenol is the first line for pain control as it is the safest drug we have and has statistically been proven to lower your need for more harmful pain medications. It should be taken regularly as prescribed for approximately 1 month and should be the last medication you wean off of.

- 2. Neurontin (Gabapentin) 300mg twice per day for 3-30 days for pain**

Gabapentin is used to treat nerve pain associated with surgery. Like the Tylenol, I recommend taking this medication regularly. It can cause fatigue and is sometimes not tolerated. For this reason, some patients simply take the night dose to help with sleep. Most surgeons prescribe only 3 days, but since some patients find this medication very helpful, and since it is relatively safe, I provide a 1-month supply. Stop immediately if you get a headache.

3. Toradol 10mg every 8 hours for 3 doses (1 day) total for pain

Toradol is a high strength NSAID (like ibuprofen). It is safe and very effective for the first day after surgery. It should not be taken with other NSAIDs or blood thinners, or if you have kidney problems. Start this medication the night of surgery before bed and every 8 hours thereafter until complete.

4. Methocarbamol 500mg twice per day as needed for muscle spasms

Methocarbamol can be taken as needed to help control the aching, cramping muscle pain. It can cause fatigue and may best be utilized at night.

5. Oxycodone 5-10mg every 4 hours as needed for severe pain for up to 2 weeks

Oxycodone is a narcotic pain medication and is the last line of defense for pain due to its side effects and because it has been shown to be addictive. It is the most powerful but is the most sedating and most likely to cause nausea and constipation. While I prescribe all of the previous medications to limit your need for narcotics, many patients will require some oxycodone for up to two weeks.

6. Senna-S 8.6-50mg twice per day as needed for constipation

Senna is a stool softener to help prevent the constipation that occurs with narcotics. Take this before you develop constipation. In other words, start taking it right away. Stop taking this if you develop diarrhea and once you stop the narcotics.

7. Zofran 4mg every 4 hours as needed for nausea

Zofran is an anti-nausea medication used to prevent the complications of narcotics.

***Refills:** We are unable to provide refills on the weekends or evenings. If you need a refill, please anticipate this and let us know early in the week. Please allow up to 48 hours for the refill to be approved.*

- **Other medications to consider:**

- 1) **Vitamin D 2000 IU daily + Calcium 1500mg Daily (I recommend Citrical petite)**

- a. **Start one month before surgery or at the time of injury, and continue 3-months after surgery**

- b. Calcium and Vitamin D is important to general bone health and fracture healing. Studies also suggest that Vitamin D deficiency can be associated with poor healing. In this region of the country most patients are Vitamin D deficient. I don't check Vitamin D levels on all of my patients I do recommend that you take Vitamin D and Calcium during fracture healing. This combination also lowers the risk of other low energy fractures, so there are other good reasons to take it.

2) Vitamin C: 500 mg twice daily for 2 weeks after surgery

- a. At least one study has shown that Vitamin C can lower pain after surgery.

3) NSAIDs.

- a. Non-steroid anti-inflammatories (Ibuprofen, Motrin, Advil, Naproxen, Mobic, Celebrex, Aleve, etc.) can be harmful for bone healing. For this reason, I recommend avoiding these drugs after the first 3 days after surgery and using Tylenol as a better alternative.

Prevention of Blood Clots (DVT or Deep Vein Thrombosis)

The risk of blood clots or DVT in the leg is low after elbow surgery but we make every effort to prevent them. All of my patients have leg stockings and pumps during surgery that are meant to lower the risk of leg clots. In addition, it is advised that you take frequent walks after surgery since immobility is a risk factor for leg clots. If you are taking anticoagulants or blood thinners before surgery, you will restart these the day after surgery

- **Driving**

- You cannot drive while taking narcotic pain medication. Since studies show that wearing a sling impairs driving, I must also recommend that you delay driving until you are out of your sling. If you are in an accident wearing your sling, this is indefensible in court. Data shows that patient's ability to drive does not reach a safe level until 6 weeks after surgery, which is my earliest recommendation. Check with me prior to driving to see if it is safe.

- **Warning signs**

- Progressive, intense pain and swelling that does not respond to pain medications, is not normal and you should call or come to the Regions Hospital Emergency Department if this happens.
- Shortness of breath with chest pain: This is very rare but important thing to watch for. While mild shortness of breath can occur after a nerve block (because of numbing the phrenic nerve to the diaphragm) please notify us of severe shortness of breath or chest pain. Shortness of breath due to the nerve block should resolve when the nerve block wears off (12-18 hours on average).
- Fever: If you have a fever over 101 degrees let us know.
 - A low grade fever within the first few days after surgery is not uncommon.
- Infection:
 - A wound infection after elbow surgery is rare but possible. We do give antibiotics at the time of surgery to limit this.
 - If your wound is draining after 3-5 days after surgery and especially if there is a lot of redness or you have a fever, this is a sign of wound infection and you should call us, return to clinic or even to the Emergency Department.

AFTER SURGERY CLINIC VISITS

Typical follow-up after surgery is detailed below. The timeline is not exact and allows for some flexibility. If you need to change a visit by a week in the first 3 months or by a couple of weeks after 3 months, this is okay. You will see both me and my physician assistant (PA) – **CJ Larson, OPA** – depending on the timeframe after surgery.

Here are the typical return visits to the clinic:

1) 2 weeks after surgery:

- a. We will check your wound and examine the arm. Sutures or staples will be removed, if not dissolvable. We will go over the findings of the surgery and X-rays. We will also go over your restrictions and rehabilitation again, provide an occupational therapy prescription if needed, handle work notes, and provide any refills of pain medication if warranted.
- b. You should have your first occupational therapy appointment coordinated to follow this visit (on the same day or the next day ideally).
- c. You will usually wean out of the sling.

2) 6 weeks after surgery:

- a. Rehab will be progressed to the next phase, we will update any work restrictions and check your motion.
- b. Bone health workup (labs, DEXA scan) initiated if you had a low energy fracture.

3) 3 months after surgery:

- a. Usually strengthening begins and restrictions are lifted.

4) 6 months after surgery:

- a. Appointments after 3 months may be needed depending on your healing and the nature of your injury.

Rehabilitation & Return to Activity

Rehabilitation following elbow surgery is very important. Your rehab will be tailored to you, to match your particular elbow injury and after surgery you will be provided with a rehab plan. It is important that you go to my website and familiarize yourself with the exercises (twincitiesshoulderandelbow.com). You will need to do home exercises on a daily basis (three times per day) and you may also need work with an occupational therapist. You will also get a copy of my rehabilitation programs. These programs are based on the best available studies and designed to maximize your long-term outcome. Please **DO NOT** let anyone make changes to your rehab without you and I discussing first. Starting between 0-2 weeks you will begin working on range of motion.

Return to full activity varies based on the type of surgery, your recovery, and your demands. Simple fractures may have no restrictions as early as 6 weeks where more complex fractures may take 3-6 months to fully rehabilitate. While restrictions are in place, aerobic exercise can be obtained with walking or using a stationary (ideally recumbent) bike or treadmill. Gym activities and unrestricted labor are typically allowed at 3 months but this is highly variable.

Work

Return to work will be dictated by your type of work and your desire to return. In general, I advise taking 1 to 2 weeks off of work. Sedentary work (desk work), with no use of the affected arm is usually allowed at 2 weeks, earlier if you really want to get back. Typing is allowed in your sling. At 6 to 12 weeks you can return to light duty with no use of the operative arm at

work. It is a good idea to continue use of the sling at work, in busy places, and in “risky situations” from 6-12 weeks. Heavy labor is delayed until you are physically ready. This may require “work hardening” which is a special form of therapy designed for more rigorous jobs. This would put your back to heavy labor at 4 to 6 months at the earliest. Work notes can be provided for being completely off work for up to 6 weeks after surgery. After that time, I will write notes for what you are physically capable of doing. These notes will have restrictions which are gradually removed. Ideally your employer can accommodate these restrictions, otherwise they may not have you return until you are at “full duty”. It is always helpful to initiate these discussions and set expectations with your employer and your family before surgery.

Want more information?

- Please visit:
 - twincitiesshoulderandelbow.com
 - <https://orthoinfo.aaos.org/en/treatment/?bodyPart=Elbow>
- Regions Hospital / Health Partners Specialty Center
 - Clinical questions: 651-254-8300 option 2
 - To schedule appointments: 651-254-8300 option 1
 - To schedule surgery: 651-254-8399 or 651-254-8338
 - Fax employer or insurance related paperwork ASAP to 651-254-8127.
- TRIA Orthopaedic Center
 - Clinical questions: 952-977-3301
 - To schedule an appointment: 952-831-8742
 - To schedule surgery: 952-977-3414
 - Fax employer or insurance related paperwork ASAP to 952-977-3459.