



Twincitiesshoulderandelbow.com

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Dr. Myeroff's Surgery Instructions & Expectations Open Shoulder 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.

Scan this code with your camera phone to learn more about Dr. Myeroff and your recovery.



What you can expect from me twincitiesshoulderandelbow.com/intro/

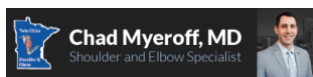
I am a member and actively present at national specialty societies including the American Shoulder and Elbow Surgeons (ASES), Orthopedic Trauma Association (OTA), American Association of Orthopedic Surgeons (AAOS) and AO North America. As an academic shoulder and elbow surgeon it is my job to stay ahead of the curve through close analysis of the latest research, national meeting attendance and presentations, and by utilizing my national network of 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!



twincitiesshoulderandelbow.com/preparingforsurgery/ Updated: May 2020

Pre-Surgery Checklist for Open Shoulder 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
- Pre-hab physical therapy appointment should be scheduled for shoulder replacements.

1 week prior:

- Stop taking Aspirin, NSAIDs (Ibuprofen, Aleve, Naproxen), Fish Oil, and Ginko Biloba
- Arrange important household items so you don't have to reach up with 2 hands
- Purchase Benzoyl Peroxide (acne face wash) and Hibiclens from your drug store (no prescription needed)
- Watch my surgery preparation videos:
 - twincitiesshoulderandelbow.com/beforesurgeryvideo/



2-3 days prior:

- For 3 days prior to surgery, apply 10% Benzoyl Peroxide acne gel to the shoulder.

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
- Watch my surgery recovery videos:
 - twincitiesshoulderandelbow.com/surgeryrecoveryvideo/
 - twincitiesshoulderandelbow.com/shouldersurgeryrecoveryvideo/
- Resume your normal medications
- Waterproof dressings can be left in place for 10 days, you can shower with it on.
- Follow my post-operative shoulder 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.

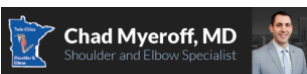
Infection prevention is a big part of surgery. While the risk of infection after shoulder surgery is low, we take every measure possible to prevent it. At least one study suggests that the risk may be reduced by applying 5% to 10% Benzoyl Peroxide to the shoulder for 3 days prior to the day of surgery. This is an inexpensive acne gel that you can buy at a pharmacy. One product is Clean & Clear "Persa-Gel 10" which is 10% benzoyl peroxide. After showering, apply the gel to the shoulder area for the 3 days before surgery. Apply in the morning and the evening for a total of 6 applications.

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 8-12 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 shoulder 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 to ease the onset of pain when the nerve block wears off the evening of surgery.

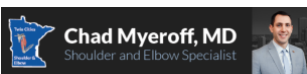
Your surgery will take about 2 hours, then you will spend about 1-2 hours in recovery. Plan on spending about half of the work day at the hospital. I will speak with your companion(s) immediately following the surgery and review the images with them. You will go home with annotated images, but don't worry, we will review them again when you see me in clinic.

Many patients are able to go home the day of surgery. 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 my Physician Assistant (PA) 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) 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

- **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**
 - If you have a waterproof bandage after surgery, you can shower with this on starting the day after your surgery without your sling (or with a mesh sling available commercially). While you shower, allow your arm to hang at the side like a wet noodle. Water can pass over the wound. To wash under your armpit, lean over while the arm dangles at the side. After your shower, pat the area dry. You can remove this dressing 10 days after surgery. It comes off easiest in the shower. Your stitches will usually be absorbable so you will not have to put up with suture removal!
 - Regular bandages can be removed 2-3 days after surgery and you can shower as above. Remove all of the dressings until you see the incisions. Leave all steri-strips in place to fall off on their own.
 - A wound infection after open shoulder surgery is uncommon but can occur. The wound should be dry without drainage by 3-5 days after surgery. If your wound is draining beyond this, 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. However, bruising is very common after shoulder surgery.
 - 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 or your pre-hab appointment. 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. If needed, there will be a pillow between the sling and your body to take tension off of the repair and help keep the arm immobilized. To fit properly the hand should be facing forward and the upper arm in line with the body when looking from the side.
- The sling is one of the biggest annoyances following shoulder surgery but is important for your recovery. It is used to prevent you from using the muscles that have just been repaired. I ask patients to **pretend the shoulder is a wet noodle**, this will help prevent the shoulder muscles from activating. You can take the arm out of the sling and place it on a pillow, mimicking the position that it would be in with the sling. **When you are up moving around and when you are sleeping the sling MUST be on for 6 weeks.** Some patients hate the pillow. If that is the case, ask me at the 2-week visit if it is OK to remove the pillow.

- **Swelling**

- Some degree of swelling is normal.
- In order to help, we encourage hand and elbow exercises
 - You can come out of your sling 3 times a day for this purpose (Figure 1-2)
 - With the shoulder dangling at the side like a wet noodle you can work on elbow, wrist and finger range of motion.
 - You may also remove the sling if you have your arm at your side and are seated, such as when watching TV, and place it on a pillow, to relieve pressure which could also cause swelling to pool.
 - We can provide a compression stocking in clinic or you may purchase one commercially.

Elbow Range of Motion

twincitiesshoulderandelbow.com/elbowmotionvideo/



Types of Motion

Passive: An outside force moves your arm for you entirely

Active assist: Using the power of your injured arm with the assistance of your uninjured arm or an outside force

Active: Using the power of only your injured arm

*Tuck your elbow at your side for all exercises
*Can be done sitting, laying, or standing

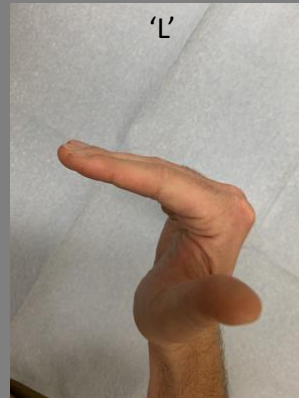
Chad Myeroff, MD
Twincitiesshoulderandelbow.com



Figure 1 Elbow range of motion

Finger Range of Motion

twincitiesshoulderandelbow.com/fingermotionvideo/



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

*This will prevent stiffness and swelling

Chad Myeroff, MD
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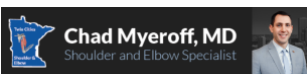
Figure 2 Finger range of motion

- **Bruising**
 - Bruising after shoulder surgery is normal. It is common for the front of the shoulder (chest and upper 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 shoulder surgery.
 - In general, you will gain 1 hour of uninterrupted sleep every month. Ie you will sleep in 1-hour intervals the first month, and 6-hour intervals the 6th month after surgery.
 - While this will slowly improve, there are things you can do to help.
 - You should consider **sleeping propped upright** for the first 6 weeks. This is not mandatory, but is the only way to elevate the shoulder above the level of the heart. You can do this by propping yourself up with pillows or by accessing a recliner. A pillow wedge can be useful for sleeping in bed and these can easily be found on Amazon for less than \$50, or make your own. I don't have a rule other than that you need to keep the sling on (except for showers, and working on elbow range of motion) until 6 weeks after surgery.
 - In addition, you can use the side-effects 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 shoulder 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 shoulder 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. Options for icing the shoulder include a bag of ice, frozen peas, or a dedicated ice machine which can be purchased on the day of surgery. Place a cloth between your skin and the ice to protect your skin and the incision. Many people find that the machine is most



convenient. However, the dedicated machine does have an out-of-pocket expense since it is not covered by insurance and may require an assistant to help you. If you are interested in this type of device, options will be provided on the day of surgery.

- **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. 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 or headache 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 or other side effect.

- 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 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**

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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.

- **Three other medications should be considered:**

- 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.

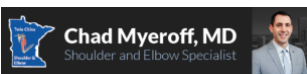
- 3) NSAIDs.**

- a. Non-steroid anti-inflammatories (Ibuprofen, Motrin, Advil, Naproxen, Mobic, Celebrex, Aleve, etc.) can modulate rotator cuff and bone healing. The timing is important. It appears that if given early they can decrease tendon healing. Therefore, I advise avoiding NSAIDs for 6 weeks following surgery other than the first day. However, after the early phase NSAIDs may actually help remodeling for rotator cuff surgery. Therefore, from 6 weeks to 12 weeks after surgery NSAIDs may actually be advantageous and I advise taking them during this period as long as they are tolerated (no problems with upset stomach). Options are ibuprofen 600 mg three times daily or Aleve 2 tabs (440mg) twice daily from 6 to 12 weeks after surgery. NSAIDs should be avoided for fractures until your bones have healed.

Prevention of Blood Clots (DVT or Deep Vein Thrombosis)

The risk of blood clots or DVT in the leg is low after shoulder surgery but we make every effort to prevent them. All of my patients have leg 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 safely drive does not reach a safe level until 6 weeks after shoulder surgery, which is my earliest recommendation.
- **Warning signs**
 - Swelling that is very painful, especially on the inside of your arm with extension of the swelling down the entire hand is not normal and you should call in 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 arthroscopic shoulder surgery is extremely uncommon (1 in 5,000). 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.

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 either me, my physician assistant (PA), or my athletic trainer (AT) depending on the timeframe after surgery. If you are traveling a distance, it may be worthwhile to perform some of these visits over video.

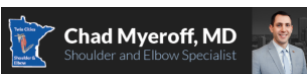
Here are the typical return visits to the clinic:

1) 2 weeks after surgery:

- a. We will go over the findings of the surgery. We will also go over your restrictions and rehabilitation plan again, handle unsettled work notes, and provide any refills of pain medication if needed. You should be off of narcotics by then.
- b. You should have your first therapy appointment coordinated immediately to follow this visit.

2) 6 weeks after surgery (optional):

- a. We will check your progress and go over your next phase of recovery. Your rehab will be progressed to Phase II, we will update any work restrictions. You will begin to wean from your sling.



- b. It is a good idea to continue use of the sling at work, in busy places / public, and in “risky situations” from 6-12 weeks.
- 3) 3 months after surgery:**
 - a. We check your progress and usually strengthening begins once your motion is full.
- 4) 6 months after surgery (if needed):**
 - a. You are released to all recreational activities and physical therapy may no longer be needed.
- 5) Annually:**
 - a. For shoulder arthroplasty, and a few select other situations.

Rehabilitation & Return to Activity

Rehabilitation following shoulder surgery is very important. Ligament and tendon healing takes 3 months, and bone healing takes 6-10 weeks, so you will usually be restricted this long at least. Rotator cuffs can re-tear up to 16 weeks from surgery so it is my preference to delay strengthening until that time for rotator cuff repairs. In the meantime, you work on protected, safe motion.

Your rehab will be tailored to you, to match your particular shoulder problem and after surgery you will be provided with a rehab plan. It is important that you go our website and familiarize yourself with the exercises (<http://twincitiesshoulderandelbow.com/rehab/>). You will need to do home exercises on a daily basis and you may also need work with a physical 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 at around 2 weeks you will work mostly on your precautions, getting in and out of your sling, and careful protected range of motion (figure 3). At 6 weeks you will begin more involved therapy.



Return to full activity varies based on the type of shoulder surgery. A typical timeline for full unrestricted activity after a shoulder replacement is 3-6 months. Note, this is FULL return but motion begins at 2-6 weeks after surgery and strengthening begins at 12 weeks after surgery in most cases. Exercise is allowed at 4 months. While in the sling, aerobic exercise can be obtained with walking or using a stationary (ideally recumbent) bike or treadmill.

Shoulder Range of Motion

twincitiesshoulderandelbow.com/shouldermotionvideo/

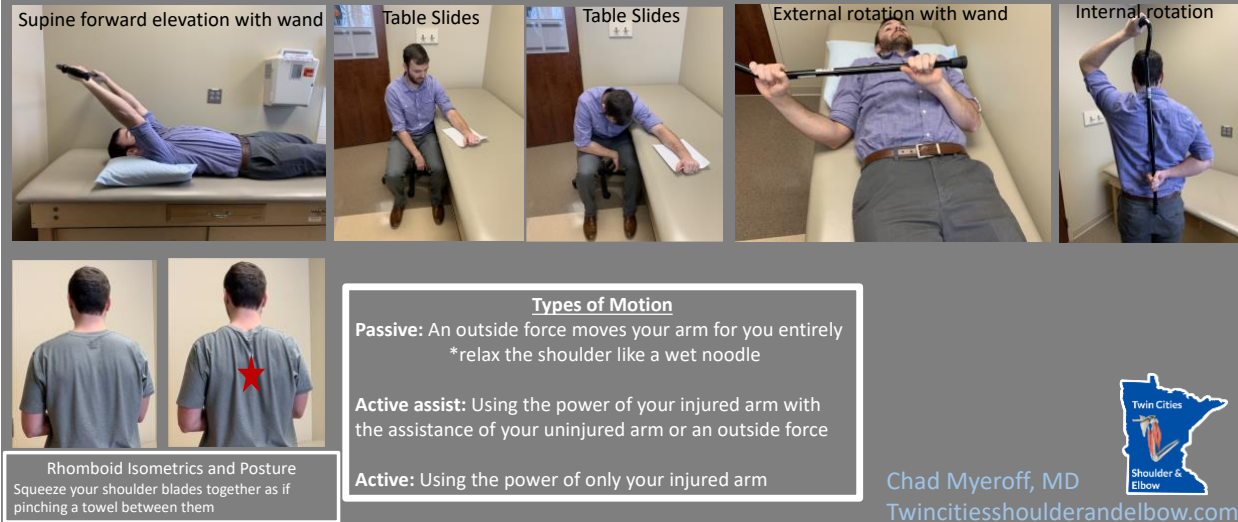
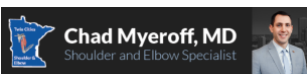


Figure 3 Shoulder range of motion

Return to work

- You and I should forge a plan for this before surgery. Please provide the necessary paper work for us to complete as early as possible.
- Work notes can be provided for being completely off work for a brief period. After that time, I will write notes for what your 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.
- Desk work: It is safe to return to desk work whenever you are up to it and off of narcotics. Generally, I recommend taking the first 2-3 days off of the work for recovery, followed by half days for the rest of your first week back. Most patients are able to return full time from the 2nd week on. Typing is allowed in your sling or with the elbow supported. Employer modifications may be needed as you will need to attend or do home PT exercises 3x per day. You will need wear your sling and won't be safe to drive for at least 6 weeks so you may need to work from home or get a ride.
- Light duty: Lifting any weight and active use of the arm at work is generally not safe until at least 3 months or longer depending on your surgery. I recommend a sling at work only between weeks 6-12 to keep you safe and your coworkers aware of your recovery.
- Full duty: If you have a physically demanding job you may not be able to return for 3-6 months depending on the surgery. I will often rely on the therapists to make sure you are safe to return.



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Want more information?

- Please visit:
 - twincitiesshoulderandelbow.com/preparingforsurgery/
 - <https://orthoinfo.aaos.org/en/treatment/shoulder-surgery/>
- 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.

Scan this code with
your camera phone to
learn more about your
recovery.

