SHOULDERMD

PAUL B. ROACHE, M.D.

BOARD CERTIFIED ORTHOPEDIC SURGEON

Surgical Education Packet for Patients

Patients who have a greater overall understanding of their condition, surgical plans, and recovery will have a more successful outcome.

This is a surgical education module for arthroscopic surgery of the shoulder by Dr. Paul Roache.

The learning objectives are the following:

- Getting ready for a successful surgery
- Understand arthroscopic surgery basics
- Important details for surgery
- Getting to and from surgery
- Recovery after surgery

Getting Ready for Successful Surgery

Welcome to the shoulder surgical pathway to heal your injury. Essentially, the surgical preparation process is a 3-step route to get ready for surgery.

Step #1:
Once you have agreed to surgery with your surgeon, the Surgical Coordinator will submit the surgery for approval by the insurance company if approval is needed.

At the time that surgery is decided on, the Medical Assistant and Surgical Coordinator will be collecting basic information from you including who might chaperone you after surgery, how you might get to and from surgery, and they will be assessing any special needs that you might have in order for preparing better for your surgery. Often a tentative surgical date is selected at this time.

- Begin preparing for your upcoming surgery. Please review this packet thoroughly and bring it with you to your upcoming appointments. We will highlight important aspects of education at each of your visits leading up to surgery.
- The week before surgery, you will start receiving important text reminders and surveys about your surgery. After the surgery, you will continue to receive these important text reminders regarding your recovery.

Step #2:
The Surgical Coordinator will be in contact with you to confirm the surgical date, and that the surgery has been approved if approval was needed.

Step #3:
This is the most work intensive step. Here, the preparation for surgery is completed, this includes:

- getting a presurgical or medical evaluation if needed
- picking up your prescription for pain medication
- taking delivery of a cold therapy unit or preparing with ice for post surgery recovery
- you will need to confirm who the chaperone person will be with you going home after surgery
- you will be confirming your transportation to and from surgery
- you will be confirming the time of surgery and location
- you will confirm the postsurgical appointment
- and you will confirm the perspective physical therapy location and estimated start date

All of this will be included in a final letter with all the instructions you need for surgery, this is usually sent 2-3 weeks before surgery. Routinely, it is useful to have a final visit with the surgeon several weeks before surgery to answer your questions and to allow staff to help you complete preparation.

Next Step:
You will receive a confirmation email and text from the Surgery Coordinator that Step 1 of the surgery process is underway. Please take some time to familiarize yourself with the following pages of this packet. Remember to bring this booklet with you to each visit, as it will help navigate your education along the surgical pathway.

Arthroscopic Surgery Basics

What is Arthroscopic Surgery?
First, understand what arthroscopic surgery really means in the simplest terms. Arthroscopic surgery is "Minimally Invasive Surgery" that uses a camera through very small incisions on the skin. This lets Dr. Roache perform the work of the surgery without disturbing other structures.

The second thing to understand is what the surgeon is doing during arthroscopic surgery when they get into the joint space with the camera. This depends on what your diagnosis and injury details are determined to be:

- If there is pinching of the rotator cuff and bursitis, then the space above the tendon is cleared of the injured bursa. If there is any edge, bone spur, or thickening of the ligament, this is smoothed to create more space. This opening of the space is called a decompression. As part of the decompression, the clavicle where it meets the acromioclavicular joint (AC joint) is often part of the impingement and may show wearing at the end of the clavicle. The treatment for this is to trim the end of the clavicle to create a space and remove bone that may be protruding, therefore, relieving pressure on the AC joint that was contributing to the pinching of the rotator cuff.

- If the tendons of the rotator cuff are injured, the treatment that is performed during surgery may involve suturing or sewing the tendon back to bone so it can heal to its original home. A patch of collagen is usually placed over the site that needs to heal – this is called the Regeneten bioinductive implant. This patch is about the size of a small stamp, 0.75 inch x 1 inch. It is made of collagen; tendons are made of collagen and cells. Specifically, this collagen is processed sterile and comes from the Achilles tendon of cows. It then induces tendon healing in your tendon. The collagen patch becomes incorporated into your tendon when your tendon cells populate the patch.

- If the biceps tendon is part of the problem, surgery on the biceps tendon is performed. In general terms, this surgery is to release the biceps under tension and causing pain while moving it to a location where it is not under tension. Sometimes when the tendon is moved to a new location, it is sewed or sutured into its new position. The release of the biceps tendon is called a biceps tenotomy; when the tendon is sewn into a new position, this is called a biceps tenodesis. All of this work is done through the small incisions.

It is helpful to understand what the surgeon is doing at surgery and some of the above-mentioned medical terminology because you will see this on the surgical consent that you will sign on the day of surgery. Keep in mind that the surgical plan is what you have already discussed with the surgeon; however, at time of surgery, a complete evaluation of the shoulder is completed, if other work needs to be performed, it is usually best to do it at that time. On the surgical consent you will see the other possible procedures that could be performed. Ask your surgeon if you have any questions when you see the consent and if you do not understand the terminology.

Anesthesia for Surgery
Understanding what the anesthesiologist will do for your anesthesia is very helpful. In general, there are two types of anesthesia used together - they complement each other and make you more comfortable after the surgery.

First, for most patients, the anesthesiologist will perform an injection of anesthesia (nerve block) at the base of the neck where nerves that go to the shoulder and arm are traveling. I tell patients that this is very much like what the dentist does to make your jaw go numb so they can do the work. In your case, the

anesthesiologist will make the arm and shoulder go numb so you feel less pain during surgery and usually no pain after surgery. This is a big advantage for your recovery and for almost all patients.

The nerve block is called an interscalene anesthesia. There are two types of medicines that are currently used for the interscalene block. The standard medicine lasts between 12 and 24 hours. It is a medicine called Marcaine or Bupivacaine. In some cases, a longer-acting medication that comes in a time-release format is chosen; this medicine is called Exparel, but discuss this with the anesthesiologist on the day of surgery.

The second anesthesia the anesthesiologist administers will help you go to sleep (general anesthesia). This keeps you relaxed during surgery and with the nerve block minimizes any discomfort you might experience from the surgery.

The advantage of these two anesthesias together is that nerve block allows the arm to go numb so you feel less pain during surgery, and therefore, less pain medications are needed while you are under general anesthesia. This has the advantage of allowing you to feel much better when you wake up in recovery.

Important Details for Surgery and Recovery

Preparing the home before surgery
As part of your preparation for surgery, you should look at your home ahead of time and think about what you may need for groceries and meals to be prepared for the first 3-5 days after surgery. Although you will most likely feel quite good, it is important to reduce any stress that comes with having your arm in a sling and not having both hands to use as you normally would.

One thing to consider is what happens with the mechanics of daily living for things like going to the bathroom. IF surgery occurs on your dominate hand that you would normally use to clean yourself, you will have to practice with your other hand to make sure that you are comfortable with cleaning and performing those tasks.

Presurgical Medical Evaluation
You may need a presurgical medical evaluation. If your age, weight, or any active medical conditions need further evaluation for the anesthesiologist, our staff will help you arrange the evaluation. This may involve having blood drawn as well as a history and physical, and in some cases, an EKG. This is all done to ensure your safety at the time of surgery.

Stopping medications before surgery
If you are on any medications in the category of nonsteroidal anti-inflammatory drugs like Motrin, ibuprofen, meloxicam, Mobic, Naprosyn, etc., we ask that you stop those 7 days before surgery. Why do we ask this? We ask because arthroscopic surgery is sensitive to the small amount of microbleeding that can occur if you are still on these medications. Why is this a problem? Visibility at the time of surgery is dependent upon fluid being able to keep the work zone clear so the surgeon can see what needs to be done. For patients who are taking these medicines within 7 days before surgery, a small amount of bleeding will leak into the fluid and can prolong the time it takes to complete the surgery. If you have any questions regarding stopping these medicines, please talk to your doctor or to the surgeon.

Nothing by mouth before surgery
It is very important that the night before surgery, you stop eating or drinking by midnight (including water). This is called taking nothing by mouth, which has the abbreviation of NPO. I recognize for those of you who are coffee drinkers that this is an issue in the morning, however, keep in mind that this is done for your safety. These are the requirements that the anesthesiologist follows in order to keep your stomach empty so that general anesthesia is safe and effective for you. (There are times that patients are taking medications that they need to take for their blood pressure in the morning. In those cases, medications with a small sip of water is permissible.)

Please remove any type of jewelry (rings, necklaces, earrings, bracelets, watches, toe rings, etc) prior to the surgery. This also includes the removal of nail polish and acrylic nails prior to surgery.

Getting to and from surgery
All surgery, whether it is at the hospital or the surgery center, requires that you have a chaperone to go home with you. This is for obvious reasons; after anesthesia, you may still be sleepy so you cannot drive yourself home, and you may need some help to get situated at home or to start the ice or cold therapy unit. Often this is a family member or a friend. The Surgery Coordinator and staff will help you confirm who this is and help with the details.

Keep in mind that transportation on the day of surgery, especially in the San Francisco Bay Area, may have traffic considerations and parking considerations depending on your facility. Please see the

instructions that have come with your surgery letter to confirm that your transportation (whether you are coming by car or however else you are coming) is confirmed and that the timing is appropriate.

Opioid Sparing Program *(see page 9-10)*
Next, we need to discuss medications that are needed to help with pain and discomfort after surgery. Traditionally, these medications have fallen into a class called opioids, which you may or may not be familiar with. Opioids are very effective medications for relieving pain, but they do have a risk of becoming habit forming if they are used for even short periods of time; some patients are more susceptible than others to forming the habit. There are numerous other medicines that are very effective for limiting pain and discomfort and can limit or eliminate the need for the stronger opioid medications.

We follow a national opiate-sparing program. The essence of this program is that pain during and immediately after surgery can be eliminated or substantially reduced with the combinations of medications and ice. Typically, we use Tylenol, which helps limit the way brain perceives pain. On the day of surgery, we use some sort of nonsteroidal. At surgery we use a medication called gabapentin or Neurontin, which helps raise the threshold at which nerves respond to pain. Typically, you will be administered these three medications by mouth right before surgery. This helps prevent pain during surgery and, when combined with the interscalene anesthesia, is very effective for making patients much more comfortable after surgery. We will follow you on this opioid-sparing program and will provide information on the program in more detail.

It is important to understand how you use your medication after surgery. Most patients in the opiate-sparring program will have Tylenol 650 mg ER x 2 tablets (1300mg by mouth three times a day), meloxicam 15 mg, and tramadol 50 mg prior to starting the surgery. These should be at home prior to surgery - it is important to understand how to use them after surgery.

In general, we recommend taking Tylenol 650 mg ER x 2 tablets (1300mg by mouth three times a day), take the meloxicam once a day and use the tramadol 50mg one tab every 4-6 hours if pain is still bothersome after you take the Tylenol and the meloxicam, and generous use of cold therapy. Many patients find that they do not need the tramadol or use it minimally in the first few days after surgery - some patients actually find that they do not need any medication after the first few days of surgery. This is one of the benefits of the cold therapy and the interscalene block. You can choose how to use your medications based off your discomfort or lack of pain as the case may be. There is no requirement to take these medications.

Important: if you are given pain medication other than Tramadol 50mg please check with our nurse for alternate instructions.

Cold Therapy *(see page 12)*
Another key part of the opiate-sparing program is using ice or cold therapy on the surgical area. In this case, the shoulder. Ice has the effect of reducing inflammation; it slows the nerves response to pain and inflammation and prevents any swelling that may occur in the region. Because it is so effective, there are devices called cold therapy units (CTU). CTUs look like small ice coolers that pump water through a hose into a pad that is placed on your shoulder. Ice is placed in the water so it pumps cold or cool water onto the shoulder. The rule of thumb is to chill it, do not freeze it, which means 20 minutes on and 30 minutes off. If you have further questions about how to use your cold therapy unit, please ask the staff in clinic or discuss it with your surgeon.

Most often our staff will provide a cold therapy unit during one of your visits, however, sometimes your insurance company will also send one out. Your insurance allows a rental period for the CTU, we ask that you bring your CTU back when the rental period is over.

Using a Sling after surgery *(see page 13)*
Next, it is important to understand that the arm will need some rest after surgery. The arm will be numb from the interscalene anesthesia and you will need to support it. In this case, you will have a sling (usually with a pad that holds it at your waist). In my practice, I place the sling around the waist prior to surgery so it is sized correctly while you are awake. This means when you wake up, your arm will be in the sling. Feel free to adjust the sling to make it more comfortable, but pay attention to a few key points on page 13.

In the beginning you should wear the sling for the first few days and go to sleep in it. When your arm wakes up from the nerve block, you then have permission to take your arm out of the sling to do your post-surgical home exercises. You can take your arm out of the sling to take a shower and then dry the arm and place it back in the sling. For almost all patients, I recommend using the sling until you see me in the postop visit. If you have had a rotator cuff repair, you will be using the sling for at least 6 weeks. Patients with other surgeries will be using the sling for shorter amounts of time.

Post-Surgical Exercises *(see page 14)*
The Pendulum exercise is the first part of your Home Exercise Program. This in essence, is letting the arm dangle, moving the body and letting the arm rotate over a small circle. In practice, moving the body is not as important as just letting the arm dangle to rotate for 2 minutes over the size of a small dinner plate. You can lean over to let the arm stretch out further as your comfort allows. I would like you to do this 4-5 times a day and 2 minutes each time.

At your first postop visit, we will instruct you on starting your second home exercise called the table stretch, (you can start before the postop visit if you like). In simple terms, this exercise is best to be done seated; you simply place your hands on the table in front of you at least as wide as your shoulders, find a position that is comfortable and hold that position for 2 minutes. You can do this 4 times a day as well. Each day, you will progress so that your hands are further in front of you and there is more shoulder motion.

One important adjunct to the pendulum and the table stretch is that often, patients will report that there is discomfort while they are doing this. A way to handle this is to use the cold therapy unit and have it on while you are doing these exercises. This can greatly aid in making those exercises more effective and more comfortable. We will review these exercises with you at your first postop visit.

Day of Surgery

The surgical progress on the day of surgery requires that you register, so you will be at the surgery location at least an hour-and-a-half before surgery (the Surgical Coordinator will help you with this ahead of time if the surgical facility allows). The nurses then must do an assessment and check you in. They will start you on an IV in the preparation area. After the nurses have you prepared, myself and the anesthesiologist will come by and discuss items with you. At that point, we will put on the sling and answer your final questions. You should have received your cold therapy unit prior to surgery, if not we will be giving it to you at this time, but if there are any questions on this, please contact the Surgery Coordinator.

When you first wake up you are going to be in the recovery room with the sling on. Most patients are very comfortable here, they have ice on their shoulder and the nurses help you wake up. Once you are awake enough, you will start to sit up and get dressed, the recovery nurses will help you prepare to go home; family or friends who have come with you can come wait with you at this time.

Recovering After Surgery

Once you are home, you will start the cold therapy, Tylenol, meloxicam, and use the tramadol if needed.

Typically, there is a dressing on the shoulder. The dressing may have collected a pinkish or reddish fluid; this is because a lot of fluid is used at the time of surgery and then after surgery, the fluid will start to seep out and collect in the dressing. No need to worry about this, there may be a small amount of blood that will clot. The dressing can be taken off. The area can be washed with soap and water and dried, Band-Aids can be applied. This is usually done the first or second day after surgery if you would like to. Otherwise, it can be done at the first postop visit - it is your choice.

Things to watch for after surgery

- You should not have any high fever (>101.5 F).
- Some patients will get constipated from the tramadol and for that, we recommend taking over-the-counter gentle medications or fiber like Dulcolax or psyllium husk. If you are a coffee drinker, be sure you start your coffee, some bowel movements are dependent on that.
- If you have any significant pain, difficulty breathing, dizziness, or any concern, please call the office so we can be aware of this, sometimes going to the emergency room is required if these things happen.

You will have your first postop visit already scheduled. At the first postop visit the sutures will be removed, and Steri-Strips will be applied with Band-Aids if needed. Often you may receive a video of your surgery, but you are not required to watch this, this is just for your own record.

It is very important to understand your Home Exercise Program since a little bit of exercise can help quite a bit for recovery. The exercises we like to have done after surgery start with the pendulum activity. You may move your wrist and elbow to keep them from getting too stiff. For some patients, the table stretch will start before the first postop visit; if not, we add it at to your Home Exercise Program at the first postop visit. For patients who have rotator cuff repairs, these two exercises are all they are going to do in the first 6 weeks. We will go over the details of your specific postop exercise programs, particularly the home component of your program, when we see you at the first postop visit.

Finally, patients often wonder when to start physical therapy. The physical therapy for most patients with a rotator cuff repair does not start until enough healing of the rotator cuff has occurred, generally

somewhere in the 8 to 12 week mark will allow therapy. For some patients, therapy starts right away if the surgery was because their shoulder was stiff or frozen, we will schedule that therapy right away and you will know about this before surgery.

The one caution, particularly for patients in Worker's Compensation, you will often get calls from services that do not work for my office who have you on a list to try and get your therapy started. You should tell those folks who call that you will discuss this with your surgeon. I will give you direct instructions about physical therapy or my office will call you directly regarding physical therapy. If there are any questions, please contact us.

Enhancing Your Recovery After Surgery

Roache MD
Paul B. Roache, MD

Use of common medications combined with cold therapy (ice therapy) and simple easy movement can reduce or eliminate your need for narcotic medication.

The 5 elements of the Opioid Sparing pathway:

1.) Mental relaxation and stress reduction prior to surgery.
2.) Local or regional anesthesia on the day of surgery.
3.) Full use of safe non-addictive medications to reduce inflammation and the brain's response to pain.
4.) Cryotherapy/Cold therapy/ice therapy to reduce inflammation and pain signals.
5.) Early mobilization to stimulate muscle recovery and joint fluid production.

Acetaminophen Extended Release (ER) 650mg (also called Tylenol): Acts at the brain to reduce the response to pain signals transmitted to the brain. This drug is an analgesic.

Meloxicam 15mg (also called Mobic, Vivlodex. Metacam): Acts by blocking the production of inflammation enzymes called prostaglandins. Pain is caused by prostaglandins that are stimulated after surgery. This drug is a non-steroidal anti-inflammatory drug (NSAID)

Cryotherapy (also called Cold Therapy or Ice Therapy): Reduces swelling and inflammation by preventing increased blood flow and increased prostaglandins from reaching the surgical area; dampens nerve transmission of pain.

Early Gentle Mobilization of the Joint: Stimulates joint fluid production to lubricate the joint; helps muscles relax from any spasm caused by surgery by decreasing compression on the joint; stimulates normal blood flow to muscles and the joint to clear away inflammation and swelling.

Use all of these treatments to enhance your recovery after surgery.

Follow the guidelines below to be successful with the Opioid Sparing Pathway:

Post-surgery: Days 1 through 4

Acetaminophen ER: 1300mg by mouth 3x's/day
(no more than 4000mg/day)

Meloxicam: 15mg by mouth 1x/day at the same time every day

Tramadol: 50-100mg by mouth every 4-6 hours as needed for increased pain.
(no more than 8 pills per day)

Post-surgery: Days 5 and on

Acetaminophen ER: 650mg to 1300mg by mouth 3x's/day
(no more than 3000mg/day)

Meloxicam: 15mg by mouth 1x/day

Tramadol: 50-100mg by mouth every 4-6 hours as needed for increased pain.
(no more than 8 pills per day)

Important cautions:

- Use the Acetaminophen and Meloxicam as your primary pain medications and only add Tramadol if needed.
- If you do not have pain, you do not have to take the medications.
- You may use another NSAID (Advil, Motrin, Aleve) as an alternative to Meloxicam; however, DO NOT use with Meloxicam.
- Acetaminophen is processed through the liver. If you have liver disease do not take acetaminophen at all.
- If stomach upset occurs with Meloxicam, try taking it with food or milk. If upset continues, please discontinue use.
- If you have known allergies to Acetaminophen or Meloxicam or any medications in the NSAIDS group, do not take these medications.
- Avoid alcohol while taking these medications. Alcohol can increase the negative side effects to the liver and increase your risk of stomach bleeding.

Contact my office if there are any concerns, comments or questions.

Wishing you a speedy enhanced recovery,
Dr. Roache

Cold Therapy Instructions

What is Cold Therapy?
The Cold Therapy Unit is a device that has a motorized icebox that circulates ice-water through a pad that is placed over and around the injured area. Cold therapy will assist you by decreasing your pain, stiffness, and swelling.

How long do I use it?
Use of the Cold Therapy Unit is dependent upon your recovery and tolerance to pain and swelling. If your recovery is rapid and there is no visible swelling or discomfort, using the cold-unit may be as short as a few days. It is not uncommon for a patient to need the cold-unit off and on for several weeks following surgery. If pain and swelling do not subside within this time period, it is advised that you schedule to see your doctor immediately.

Important, please read:

- Be sure to securely fasten the pad to the hose to prevent leakage
- Rinse the filter under warm water every 2-3 days of usage to prevent hard water buildup
- Do NOT place the pad directly on your skin
- Do NOT use the cold-unit while sleeping
- Do Not fill with hot water
- Chill it, Don't Freeze it – use the cold-unit for 20-30 minutes on, followed by 30 minutes of rest.
- Do not use this overnight while you are asleep.

Instructions for use:

- For safe and effective use of the cold therapy unit, fill ice 2/3 to the water line, then add water up to the line.
- Apply the pad to your shoulder that just had surgery. Do NOT apply directly to the skin, a t-shirt, washrag, or dressings are helpful.
- Use the cold-unit for 20-30 minutes at a time. Make sure to turn off the machine when not in use.
- It is important to Chill it – Don't freeze it. Your surgical area needs time to recover from the cold in between uses.

If you have questions regarding how to use the cold therapy unit, visit our website www.ShoulderEducation.com or call the office.

Should I make modifications to the settings?
The unit is designed for your comfort and therefore only you can determine if it's too cold or not cold enough to provide you the benefit that is was designed for. A cold barrier must be used at all times when placing the cold pad on the injury site. Make sure to reconnect the hoses securely after you disconnect them, as fluid will NOT run through the pad. You must replenish the ice in the cooler every 6-8 hours depending upon usage and ambient temperature. If air gets trapped in the unit, tapping the motor to dislodge the bubbles is recommended.

How to Wear Your Sling

The sling is to be worn at all times, even to bed. You may take the arm out only to do you pendulum exercises or shower. It is important that you wear your sling properly. Proper sling usage can ensure that your arm heals the right way.
To apply a shoulder sling correctly:

1. Gently pull the sling over your arm and elbow. It should fit snugly around the elbow. Your hand should come to the very end of the sling. Make sure the end of the sling doesn't cut into your wrist or hand; if your hand hangs at your wrist, your sling may be too small.
2. Reach around your neck and grab the strap behind your elbow. Pull the strap around the back of your neck and feed it through the loop near your hand.
3. Tighten the straps so your hand and forearm are elevated above the level of your elbow. This helps to prevent blood and fluid from pooling in your hand and wrist.
4. Fasten the strap with the Velcro fasteners. You may wish to put a small piece of terry cloth under the strap for comfort around your neck.
5. The strap around the neck does not have to carry the full weight of the sling since the strap around the waist should stabilize the sling in position, but feel free to adjust both straps to make it more comfortable.

Your Sling should fit comfortably and not feel binding or tight. It should maintain your shoulder, elbow, and wrist in a relaxed position so you can go about your day-to-day activities.

Adapted from VeryWellHealth

Home Exercise Program

- Start exercises only when Dr. Roache has instructed you to do so.
- Do the exercise sessions up to five times per day. It is best to space the exercise sessions throughout the day (every 2-3 hours) to maintain flexibility during this important time of healing.
- Avoid forceful, sudden, or jerky movements.
- If these exercises cause discomfort, it is helpful to apply the cold therapy unit while doing the exercises.

Pendulum Exercise

1. Lean forward and use your unaffected arm to support you. You should lean forward more than the person pictured to the right.
2. Let your surgical arm hang loosely.
3. Move your arm in a circular motion (as if you were tracing over a small plate on the ground). This will cause your surgical arm to swing.
4. Note that is the active motion of your body that causes the arm to move. You should not attempt to make the arm swing on its own.
5. Do this exercise for at least two minutes, 4-5 times per day.

Table Stretch

1. Sit upright in a chair (preferably a chair with wheels)
2. Place both hands on a desktop or table in front of you.
3. Gently lean forward to stretch the shoulders. Keep your shoulders square.
4. Hold for 30 seconds. Gradually work up to holding for two minutes over several weeks.
5. Perform 5 times daily.