



**Specialists
in Mobility**

HOSPITAL FOR SPECIAL SURGERY
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Your Pathway to Recovery

**Surgery for
Shoulder Injuries**

**Volume 6
First Edition
Patient Education Series**



Your Pathway to Recovery

Notes on Your Progress and Goals

Surgery for Shoulder Injuries

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In collaboration with the HSS Sports Medicine Service

**Publication of this volume of the Patient Education Series
has been made possible through generous support from the
Jacob and Valeria Langloeth Foundation**

HOSPITAL FOR SPECIAL SURGERY

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Achieving Your Ultimate Goals Following Shoulder Surgery

You are well aware of the impact that your shoulder injury has had on your lifestyle. This may have been occupational and/or recreational. But now that your shoulder has been repaired and rehabilitation has begun, we suggest you focus on these thoughts:

Your shoulder surgery will serve you well, if you work hard to restore and maintain your full range of motion and strength. When your formal physical therapy is completed, your physical therapist will give you an individualized exercise program that can be performed at home or at the gym. He/she will also point out which exercise equipment can be most helpful in achieving your personal goals. In addition, modifications of your current exercise regime may be suggested.

However, to achieve your ultimate goals you will need time to develop confidence in your shoulder. Therefore, a staged conditioning program, which offers progressive improvement in function of your shoulder, is critical to reaching your goals.

In other words, a graduated program of increasingly challenging activities will help you achieve success. For example, progressing from hitting ground strokes in tennis to the more challenging overhead serve. Or beginning swimming by doing the breaststroke and then progressing to the overhead crawl.

Today is a good time to consider which staged activities will contribute most to your goals and to begin planning your involvement. By beginning to plan your individual, graduated program now, you will enable a faster return to using your shoulder confidently to regain the life style you want.

The HSS Approach to Shoulder Surgery

At HSS we believe that patient and family education is a critical component of providing excellent patient care. Therefore we designed this book to help guide you through your shoulder surgical journey from beginning to end. Its objectives are three-fold:

1. To help prepare you for your surgical and hospital experience.
2. To optimize your participation in the shoulder surgical processes while in the hospital.
3. To prepare you for initiating and maximizing your recovery at home.

HSS performs over a thousand shoulder procedures each year. This enables us to have "Shoulder Teams" consisting of orthopaedic surgeons, anesthesiologists, physician's assistants, registered nurses, physical therapists and their assistants, athletic trainers, nutritionists and research scientists. These teams are at the forefront of research, surgical techniques, rehabilitation techniques and nursing care for shoulder injuries. In an atmosphere that nurtures your well-being, your shoulder team will employ the best technological and educational strategies appropriate for your individual shoulder with the goal of returning you to your pre-injury activity level as quickly and safely as possible.

This book is your team's general guide to your shoulder surgery, and then to post-operative care and rehabilitation. However, not all shoulder patients have precisely the same conditions and needs. Several of the most common shoulder surgical procedures are described in this book. At HSS, each shoulder surgery patient is treated individually. Therefore, your surgeon, physical therapist, or nurse may make changes or additions to this book, according to your individual needs. **Their changes take precedence.**

You will help achieve your optimal recovery from your surgery by becoming an active, helpful part of the HSS team before, during and after surgery. Of course, the long-range benefit of your surgery depends very much on success of your continuing rehabilitation at home. We expect that you will continue to practice what your team has taught you long after you have left us.

This book structures your participation from this moment forward. Therefore it is imperative that you and your family or home care helper(s) read this book carefully now, and then, refer to it at appropriate times during your shoulder surgery processes.

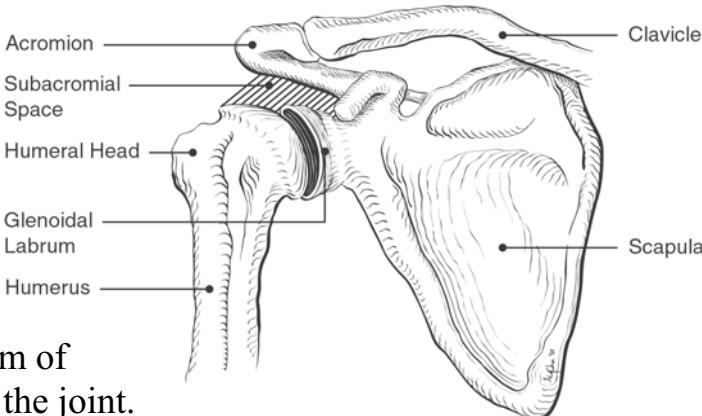
Sincerely,

Your HSS Shoulder Team

Your Shoulder Joint

The shoulder joint may be described as a “ball and socket”. However, it is a relatively large ball in a socket which covers only a small part of the ball. This allows the shoulder to provide the wide range of motion required to perform many athletic activities, such as throwing, swimming, serving a tennis ball, and functional movement in many directions.

The shoulder is made up of three bones. The "ball" component is made up of the head of the humerus (upper arm bone). The "socket" component, called the glenoid, is made up of the outer portion of the scapula, commonly called the shoulder blade. The third bone is the clavicle or collar bone. The labrum is a ring of cartilage on the socket that helps stabilize



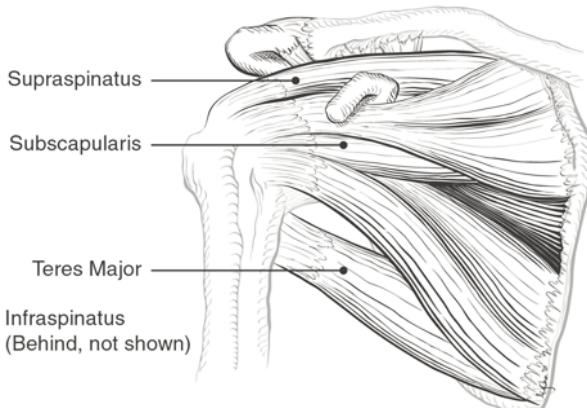
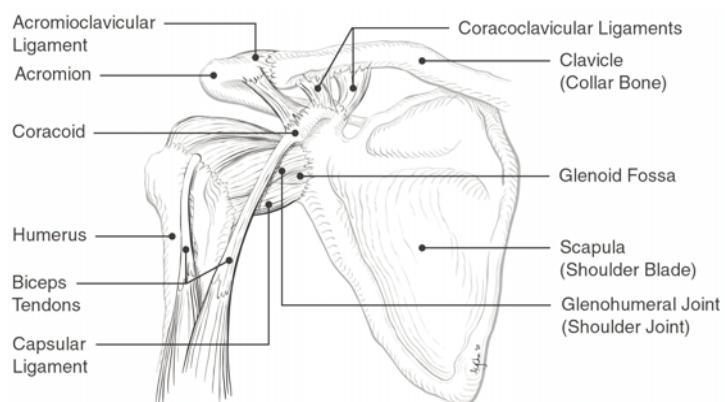
The stability of the shoulder joint mainly depends on the capsule, an envelope of fluid surrounding the joint (not shown), ligaments connecting bones in the shoulder joint, tendons which attach muscles to bones, and the muscles themselves which initiate and control the position and activity of the joint.

Contributing to stability is the rotator cuff formed of tendons attached to humerus and their four major muscles which drape over the shoulder joint. The large muscles which attach to the scapula (shoulder blade) play a significant role in the normal function of the shoulder.

Obviously, the shoulder joint is so complex and possibilities for injury are so many that it can not be fully explained here. **Your physician will show and explain the specific nature of the injury to your shoulder joint and then, how he or she will approach its repair.**



The diagram illustrates the right shoulder joint from a posterior perspective. It shows the glenohumeral joint where the head of the humerus fits into the glenoid cavity. The infraspinatus muscle is depicted as a thick, triangular muscle located on the posterior aspect of the shoulder. Above it, the supraspinatus muscle is shown as a broad, flat muscle. The trapezius muscle is also partially visible at the top of the image. A vertical dashed line indicates the midline of the joint.



Frequently Asked Questions, continued

Q: What if I think I have re-injured my shoulder?

Do not wait to see if it will heal itself. Discuss this with your doctor right away. You may need to schedule an evaluation. If you scheduled to have a physical therapy appointment, discuss this with your therapist. Most re-injuries are best dealt with right away. Otherwise, call your physician as soon as possible.

Your doctor will make a formal analysis and give you options or recommend a specific action to follow. If your doctor wants you to “wait and see”, he/she will tell you so. **Note:** Fortunately, if you follow your post-surgical program and wear the immobilizer as instructed, re-injuries are uncommon.

Q: When can I return to sports specific activities?

This will be decided by your surgeon. Again, the type of surgical procedure will be a factor in this decision. Other factors that may be evaluated by your physical therapist include: normal range of motion and flexibility; normal strength; and lack of symptoms.

Usually sports specific activities will be allowed after an acromioplasty between 8 and 12 weeks. After an arthroscopic stabilization, between 14 and 18 weeks.

A rotator cuff repair will vary greatly, depending on the extent and nature of the repair. Generally, it will be at least 4 months.

Add Your Own Questions Here

You very likely will have questions regarding your own special situation. Please make note of them here, as you think of them. Then use this as a reminder to ask your physician or physical therapist.

Frequently Asked Questions

Q: When should I start physical therapy?

Your home program is physical therapy and you must carry it out as soon as you are instructed and do it consistently. However, formal physical therapy will begin when your physician decides.

We will encourage you to make an initial post-operative physical therapy session at HSS, coinciding with your physician's visit. But even before your shoulder surgery you should be exploring your physical therapy options with your surgeon and pre-op therapist. If you are unable to return to Hospital for Special Surgery for rehabilitation, than a member of our team can assist you in contacting a rehabilitation facility in our HSS Rehabilitation Network to insure your optimum care and recovery.

For HSS Rehabilitation Network Directory Assistance, please call 212-606-1317.

Q: When should I stop cryotherapy?

When you do not have any pain, inflammation or swelling. However, for some people, the answer is "never". After exercising or returning to activity, you may develop pain and inflammation. In this case, cryotherapy should be utilized immediately. Even when you do not have any immediate symptoms, you may utilize cryotherapy preventively to avoid any residual symptoms.

Q: When can I return to work or school?

This will vary with the type of surgical procedure you have. However, it is generally when you are comfortable and if your work or school does not require physical activity that will stress your shoulder. If it involves activity that may stress your shoulder, then explore this carefully with your doctor or physical therapist.

Q: How long must I wear the sling or immobilizer?

Once again, this will depend on the type of surgical procedure. Generally, after having an arthroscopic acromioplasty, the sling is only used for comfort or protection in public. On the other hand, following rotator cuff repair or shoulder stabilization, the immobilization period is longer. This may be anywhere from 4 to 6 weeks. Ultimately, this will be decided by your doctor and may be determined by the extent of the procedure that has been done.

Mechanism of Shoulder Injuries

Shoulder injuries can result from an acute traumatic event or result from repetitive, overuse activities. Many repetitive overhead activities, such as tennis, swimming, and baseball can result in injury to the capsule, ligaments and muscles that surround the shoulder joint. In addition, lifting weights too frequently or incorrectly can lead to shoulder injury.

On the other hand, a single traumatic event, such as falling on an outstretched hand or a direct blow can result in injury. These injuries are common in contact sports and skiing. Immediate effects of these injuries can lead to pain, swelling, and instability of the shoulder.

Depending on the severity of the injury, the function of the injured arm can often be greatly compromised. Unfortunately some structures, of the shoulder joint do not readily heal themselves. Even with treatment, such as physical therapy some of the symptoms or limitations may remain.

As with other joints, bracing is generally not a viable alternative. Therefore, without surgical intervention, many individuals are unable to participate in their desired sports or functional activities at the pre-injury level.

Untreated conditions can have other consequences. For example, chronic instability may result in subsequent damage to other structures of the shoulder leading to further pain. This may also result in limitation of movement. Finally, for some persons the shoulder injury may eventually lead to osteoarthritis.

Therefore, early surgical intervention may be recommended for individuals who want to return to higher levels of activity for personal, sports or vocational reasons.

On the following pages we have described three typical shoulder procedures for injuries or conditions which usually require surgical repair along with the necessary rehabilitation that must follow in order for you to achieve a successful outcome. Your injury probably falls within one of these categories. Your surgeon may describe your specific surgery in greater detail and be more specific about the required rehabilitation.

Rotator Cuff Repair

The rotator cuff is a group of four muscles with tendons that drape over and attach to the humeral head. They contribute to the stability of the shoulder and play a large role in raising the arm. The cuff muscles or tendons may be torn or bruised by a traumatic event, such as a fall on an outstretched hand. However, many rotator cuff injuries are of the overuse type. Many repetitive activities, especially overhead, such as throwing, tennis or swimming, put a great deal of stress on the rotator cuff. Eventually, the tissues can breakdown and tear. This can result in pain, loss of strength, loss of range of motion, and even instability, all of which can result in loss of function.

To return the individual to his/her pre-injury activity level, surgical repair by suturing the torn muscle and/or suturing the tendon back to the humerus is often required. The type and extent of your surgery is determined by several factors including the size of the tear, your activity level, quality of the tissue available, level of pain, and loss of function.

Immobilization and rehabilitation

The nature of the tear will determine the surgical procedure that you will have. Rotator cuff tears vary greatly by extent and location. This helps determine your post-operative rehabilitation. Generally, more extensive repairs are rehabilitated more cautiously. However, regardless of the extent of your procedure, there will be a protective period when your shoulder is kept in an immobilizer or sling. The extent of the procedure may determine the length of the immobilization period and will be decided by your physician.

During this period, patients often begin physical therapy and may be asked to perform certain range of motion exercises that will not harm the repair. Generally, during this period you will only be allowed to move the operated arm passively by using your non-operated arm or an assistive device, so as to not strain the repaired muscles.

As the rehabilitation program progresses, you will be allowed to actively move the arm on its own and begin strengthening. Pay careful attention to your physical therapist's directions and perform the exercises exactly as you are instructed. Your strengthening program will be individually progressed, based on the HSS Rotator Cuff Rehabilitation Guidelines.

Possibility of pre-surgery physical therapy

If your shoulder's range of motion or strength has been compromised to a great extent, your doctor may refer you to physical therapy prior to your surgery. The purpose is to restore as much of your normal strength and range of motion as possible in order to attain the best outcome possible from your rotator cuff repair.

Managing Your Pain!

After shoulder surgery, there will be times when you experience general discomfort and intrusive pain, causing tension, stress, distraction and even anger. Therefore, it is important that you learn how to handle discomfort and pain without routinely resorting to pain medication. We suggest that you adopt the **management approach to pain**.

Start by acknowledging, rather than denying, your pain. Say to yourself, "Like it or not, it's here." Then deliberately take "time out" to manage the pain and minimize its effects. One way is with **cryotherapy**, discussed below. Another proven way is to use a **relaxation technique**, such as this: First assume a position, sitting or lying, in which you can relax.

Now breathe in slowly and deeply. Then, as you breath out, focus on relaxing individual parts of your body, such as your neck, back or extremities, which may be under tension.

Repeat this sequence, breathing slowly and rhythmically. Use a slow, paced count: "In, two, three;; Out, two, three." (It may help to try abdominal breathing, using your diaphragm.) Every time you breathe out, continue to focus on isolating and relaxing different parts of your body, including muscles. If you want, imagine you are in your own special place that is calming and relaxing for you, such as on a beach.

Within 10-20 minutes you will be totally relaxed. Pain will be localized and probably subsided. Your body will be free from the broad effects of pain and your mind will have drifted away from it. So end with a slow, deep breath and, as you breathe out say to yourself, "I'm relaxed, alert and ready to proceed." Then concentrate on staying that way.

Once learned, this relaxation technique can "manage pain" effectively in a very short period of time. You can use it instead of medication virtually anywhere for years to come.

Use cryotherapy during rehabilitation and then for life. Cryotherapy, the use of cold to treat your shoulder surgery, helps decrease pain, and reduce swelling and inflammation on an immediate basis. It may be implemented in the form of ice wrapped in bags or towels, compression cuffs, or commercial cold packs. Always have your cryotherapy device ready and know how and where in your home to use it. Be quick to use it when significant pain sets in. Also take time to develop a methodical way of using cryotherapy regularly throughout your recovery. Then make cryotherapy a life long tool for quick, near term relief of pain, swelling, or inflammation from any future event.



If your sutures are still in place, you may want to place a towel under the ice/cold pack.



Pendulum Exercises

1. Standing, bend at waist, let arm of repaired shoulder hang relaxed.
2. Keeping your arm relaxed, begin by swaying your whole body back and forth to cause the arm to swing gently.
3. Move the arm side to side and front to back.
4. Repeat, moving the body and arm in circular patterns, clockwise and counter clockwise.
5. **Repeat ____ times, ____ times per day.**



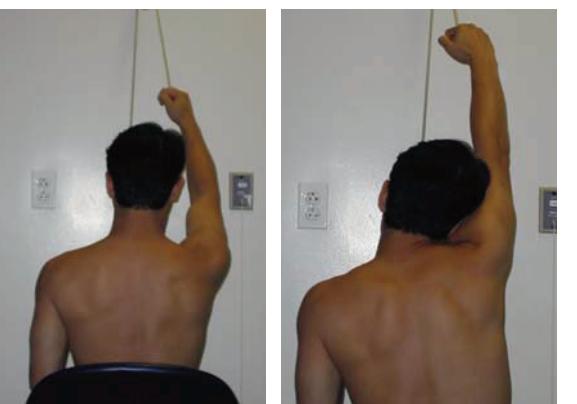
Gripping Exercise

1. Open and close your hand making a fist without moving your repaired shoulder. Your arm can be bent or straight.
2. **Repeat ____ times, ____ times per day.**



Shoulder Blade Pinch

1. Standing or sitting with arms at your side:
2. Pinch your shoulder blades together.
3. Hold for _____ seconds.
4. **Repeat ____ times, ____ times per day.**



Pulley Arm Stretch

**You will need a pulley and place to hang it.
Discuss this with your physical therapist.**

1. Seated, grasp pulley handles with both hands.
2. Pull down with opposite hand to stretch arm of the repaired shoulder upward. Keep shoulders level; do not let them move with the arms.
3. Return to starting position, lowering arm slowly.
4. **Repeat ____ times, ____ times per day.**

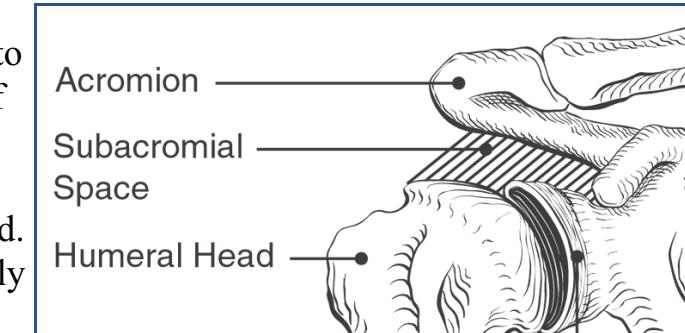
Yes: shoulders level

No: shoulders move

Arthroscopic Acromioplasty (Subacromial Decompression)

There is a "bony and ligament archway" in the shoulder that is comprised of the top of the arm bone (humeral head) and the end portion of the shoulder blade (scapula), which is called the acromion. The rotator cuff muscles are located in and travel beneath this "archway" as the arm is raised.

Certain conditions can cause the archway to become smaller and increase the chance of compressing or irritating the rotator cuff. This can be caused by bony "spurs" that may form on the acromion or humeral head. These can irritate the rotator cuff, especially when the arm is lifted. After a period of time, the rotator cuff can become thickened or frayed, resulting in pain and inflammation so debilitating as to require repair.



In these cases, your doctor will perform a surgical procedure called Arthroscopic Acromioplasty or Subacromial Decompression. The procedure decompresses or opens up this archway in order to relieve the compression and irritation of the rotator cuff. The surgery may consist of shaving down the acromion and removing any of these spurs. In addition, any damaged tissue may be "cleaned up".

Generally, after this surgery you may wear a sling or immobilizer used primarily for comfort for a short period of time (1 or 2 days to a week). Initially, it may also be valuable for protection when in crowds. In most cases, you will be allowed to begin restoring range of motion almost immediately. However, care should be taken to avoid being overly aggressive, giving the postoperative pain and inflammation the opportunity to subside. This will allow you to begin a strengthening program more quickly.

Your therapy will follow a graded progressive strengthening and flexibility program until normal function is restored. You will be given a written home exercise program to continue after you have completed your formal physical therapy. Also your therapist can offer suggestions in modifying your regular exercise program to avoid re-injury.

Although there is a good deal of variation, most patients can return to activity in eight to twelve weeks, but sometimes, it may take longer for the shoulder to return to normal.

Shoulder Stabilization

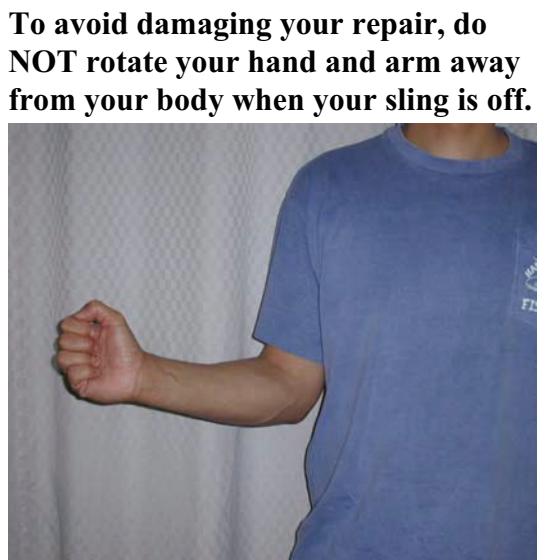
As already mentioned, the shoulder joint is capable of the great range of motion that is required to perform many athletic and functional activities. At times, excessive use of this motion can cause the shoulder joint to become too loose or unstable. This can result from several causes. On one hand, a traumatic event, such as a fall on an outstretched hand, can cause the shoulder to "come out of joint" or dislocate. An injury of this sort that can cause the capsule to tear where it is attached to the shoulder socket is described on Page 4.

On the other hand, repetitive activities, especially overhead, can cause the capsule to gradually stretch out or tear where it attaches at the shoulder socket. In addition, some people are born with joints that are just "loose". This may also increase the likelihood of this type of injury. This repetitive type of injury can cause symptoms that include pain, instability, clicking and loss of strength.

Any of these symptoms can prevent someone from functioning at the level of activity that is desired. In many cases, these tears where the capsule attaches to the labrum must be repaired to restore normal shoulder function. These repairs can often be performed arthroscopically, thus reducing the amount of soft tissue trauma. This is referred to as an arthroscopic stabilization.

Despite this being an arthroscopic procedure, you will be immobilized immediately after surgery. The length of time in the sling or immobilizer will vary and will be determined by your physician. Generally, after this procedure you will wear it for approximately 3 to 6 weeks. Often, you will be allowed to remove the sling at some point while you are at home, but wear it in public for protection. Your physician will tell you when you can begin to restore range of motion and your physical therapist will guide you through this.

The motion that you will have to be most cautious about is rotating your hand away from your body (external rotation), as this can damage the repair. You will restore this range of motion, as you will follow a strengthening program that will be progressed individually to your personal needs, based on the HSS Shoulder Stabilization Guidelines.



To avoid damaging your repair, do NOT rotate your hand and arm away from your body when your sling is off.

For these exercises we suggest sitting on a chair by a table or desk to provide support:

Forearm Pronation

1. With arm supported, elbow bent, palm down:
2. Use the hand opposite to the arm of the repaired shoulder to rotate its forearm, as shown.
3. **Repeat ____ times, ____ times per day.**



Forearm Supination

1. With arm supported, elbow bent, palm up:
2. Using the opposite hand, gently rotate forearm of your repaired shoulder, as shown.
5. **Repeat ____ times, ____ times per day.**



Wrist Extension

1. With elbow supported and palm down:
2. Extend the wrist, as shown.
5. **Repeat ____ times, ____ times per day.**



Wrist Flexing

1. With elbow supported and palm down:
2. Flex wrist down, as shown.
5. **Repeat ____ times, ____ times per day.**





Flexion/Extension

1. Lying down, place a small towel roll under the arm (just above the elbow) of your repaired shoulder.
2. Keeping your hand straight, gently bend the lower arm up and then straighten it out, doing a full range motion comfortably.
Your shoulder should be relaxed.
3. Repeat ____ times, ____ times per day.

Overhead Assisted Flexion

1. Lying down, grasp cane or stick with both hands.
2. Raise straight up over head (your starting position) and using the opposite arm to help, stretch the arm of your repaired shoulder.
3. Lower stick slowly as far as is comfortable, and raise slowly to vertical position.
4. Repeat ____ times, ____ times per day.

Assisted External Rotation

1. Lying on back with small towel roll under arm and elbow kept bent at 90, hold cane or stick across your body in both hands.
2. Using the stick or cane for assistance, rotate Your repaired arm out, away from your body.
3. Do not allow your upper arm to move away from your body.
4. Repeat ____ times, ____ times per day.

Your Pre-Operative Preparation

At HSS we have learned that a patient who understands the entire course of shoulder treatment will be less apprehensive of both the procedures and the outcome, and thus will be able to progress more rapidly and efficiently. Therefore, before your day of surgery, we may hold a "Pre-Operative Training Program" with you.

- The Pre-Op Training Program introduces you to key elements of your post-operative plan of care, so that you will recognize and absorb them better when they are formally introduced after surgery.
- The Pre-Op Program may help shorten your stay in the hospital after surgery.
- The Pre-Op program contributes strongly to reaching your functional goals sooner, such as restoring range of motion and shoulder strength.

Your Pre-Operative Training Session will include:

- Fitting of a sling or immobilizer and instruction in donning and removing of it.
 - Demonstration of a post-operative cryotherapy (cold therapy) device which reduces pain and swelling.
 - A "hands-on" demonstration of your initial post-operative exercise program. These exercises are illustrated on Page 18. **Note:** You are to only perform the exercises that are prescribed by your doctor. At times, the exercises may change post-operatively.
 - A discussion with a member of the rehabilitation team regarding the post-operative course for your individual surgery. Questions regarding any aspect of your pre- and post-operative plan of care are encouraged. Please make note of them here.
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Your Pre-Operative Checklist

So that your trip to HSS for shoulder surgery will go smoothly, you must carry out all the instructions on this checklist before your entry into the hospital:

- Pre-operative Screening:** Within 7-10 days of your surgical procedure you must have some tests done, as ordered by your physician. They may include blood and urine tests, x-rays, and a cardiogram. This pre-testing may be done at HSS or an outside medical facility. If the tests are done here, a registered nurse will request information about your health and help you learn about what to expect and how to plan for your surgery. If they are not done at HSS, all test results should be faxed to your surgeon's office for review as soon as available.

(Record Fax number here _____.)

- Obtain the cryotherapy (cold treatment) device** which your surgeon recommends. Take notes here: _____

- Discuss pain management with your physician**, if you have concerns or questions.

- A Registered Nurse from the hospital or admissions will call you** between 1 pm and 6 pm the day before your scheduled surgery (or on Friday, if scheduled for Monday) to tell you your time and place to arrive at HSS; to discuss your specific preparations for surgery; and to answer any questions you may have. If you have not heard from us by 7:00 pm the day before your scheduled procedure, please call us at 212-606-1154 or 212-606-1326; and tell them you are waiting for your pre-surgical phone call.

- Follow fasting instructions** provided by the nurse during your telephone conference. Normally patients are not allowed to eat or drink anything after 12:00 midnight prior to surgery. If you are on medications for other medical problems, you will be advised what to take on the morning of surgery with sips of water. **If you are a diabetic, do not take any medication for it, unless instructed by your medical physician.** Bring your glucometer and medications with you on the day of surgery.

- Wear loose, comfortable casual clothing..** Because you will leave HSS with a shoulder immobilizer, we recommend that you wear a loose-fitted button down shirt.

Your Home Exercise Program

Without question, your speed of recovery to your normal, desired range of motion and shoulder strength will depend upon how faithfully you follow your assigned exercise program. For each individual shoulder surgical procedure, there will be several phases related to: Immobilization to initiate healing and prevent damaging of your shoulder; Restoring range of motion; Developing shoulder/arm strength, and Performing functional activities.

Each phase will be initiated at the proper time, on an individual basis, by your physician or physical therapist. The most common post-operative exercises are illustrated here. **Remember to perform only those exercises that have been checked off for you.**

Note: Your exercises should **not** cause progressive, increasing pain. If this occurs, discuss it with your therapist and alter your exercise program accordingly. (You can take pain medication 30-45 minutes before exercising to help cope with initial pain.)

Passive Shoulder Flexion

1. Lie on your back, placing small towel roll under arm of your repaired shoulder.
2. Grasp your wrist with your opposite hand.
3. Gently raise your arm overhead, keeping the arm relaxed (don't move it by itself).
4. Lower slowly.
5. Repeat ____ times, ____ times per day.



Passive External Rotation

1. Lying on back with small towel roll under your arm and elbow bent at 90.
2. Using the opposite hand, gently rotate the arm of your repaired shoulder straight across your body, keeping the arm relaxed (don't move it by itself).
5. Repeat ____ times, ____ times per day.



Your Initial Home Activities

Your initial home activities are focused on: (1) proper care and management of the shoulder; (2) performing necessary exercises; and (3) becoming comfortable with your shoulder during this important post-operative period. **Your physician may provide you with instructions that supplement, or change the ones listed here.**

Surgical Site Care

1. Keep surgical area clean and dry at all times. Do not put tight clothing over it.
 2. Keep the dressing in place, but clean and change it if it gets wet, or as directed by your physician.
 3. Leave the steri-strips in place (although they may fall off on their own).
 4. Your sutures and remaining steri-strips will be removed during your first post-operative visit with your physician 7-14 days after the surgery.

Showering

You may shower without your sling after 3-5 days, **keeping your operative arm across your body**. Remember, **DO NOT REACH** for objects with your operative arm; keep it across your body! After the shower, you must put your sling back on.

Pain Management

1. Apply cryotherapy to your shoulder for 20-30 minute intervals at least three times a day, or as instructed by your physician.
 2. Take your pain medication as prescribed by your physician. Take it before the pain becomes too severe. It will help reduce the pain sooner. In the event that the pain medication does not work, or you are experiencing unpleasant side effects, do not hesitate to call your physician's office. (Remember, if you are taking pain medication, you should **avoid** alcoholic beverages.)
 3. Avoid taking medication on an empty stomach. Have something to eat first.
 4. You may get lightheaded after taking pain medication. Move slowly, as when getting up from a lying to standing position.
 5. Take your pain medication 30-45 minutes before doing your exercises.
 6. Drink a lot of water (at least eight 8 oz. Glasses per day) to keep yourself well hydrated after surgery.

When Sleeping Or Sitting

1. Keep your shoulder in the immobilizer unless instructed otherwise by your physician.
 2. Place a pillow under your forearm for support. If you have a recliner you may find it very comfortable after shoulder surgery.

Pre-Operative Checklist, continued

- Arrange for your escort and transportation home.** You can not drive yourself! Your surgery will be cancelled, unless this arrangement is clearly established when you arrive at HSS.
 - Leave all valuables at home**, including jewelry and money.
 - If possible, arrange for someone to stay with you at home** or to be available for at least 48 hours to assist you with activities of daily living.
 - Bring your healthcare insurance cards.**
 - Review your post-operative exercises.** They begin on Page 18. Practice them, if you can. If your surgeon has given you exercises to strengthen your shoulder before surgery, do them faithfully according to instructions.
 - What arrangements for your physical therapy** do you need to make? Review this with your surgeon. You may find it easier to learn about the rehabilitation facilities, their location and hours and financial requirements before your surgery.
 - FOR 10 DAYS BEFORE SURGERY** stop taking aspirin, or anything that contains aspirin and all anti-inflammatory medications (i.e.: Aleve, Advil, Motrin, Ibuprofen, Voltaren, Naprosyn, Feldene, Celebrex, Vioxx, etc.), as well as such nutritional

Do you have questions about these Pre-Operative Instructions, or want to make notes? You can jot them down here.

Your Day of Surgery

When you arrive at the main lobby of HSS, the receptionist at the information desk will direct you to the operating room floor where your shoulder surgery will be performed. There, the admitting assistants will complete your admission process and give you a hospital I.D. bracelet.

You and your family will remain in the waiting area until you are called to the pre-surgical unit. After you are called, they may stay in a nearby Family Waiting Room.

- In the pre-surgical unit** you will be greeted by the nursing staff and asked to change to a hospital gown. Your clothes and personal possessions will be labeled and held by the staff. If your surgery is in the Ambulatory Surgery Center (1st Floor), you will have a locker for your belongings.

Next, the nursing staff will take your temperature, pulse, respiration and blood pressure (all your vital signs). Your surgical area will be shaved and washed with antiseptic soap.

- When you are ready for surgery**, your surgical team will introduce themselves to you. These include the nurse, surgical assistant, anesthesiologist, and assisting physicians. Each member of this group will have already reviewed your medical record in light of their own role in your surgery. They will discuss key aspects of your health as they relate to your surgery and explain the procedures. **This is an excellent time for you to ask any last minute questions about your surgery that you may have thought of since your last contact with your physician.**

"Sign your site." Your surgeon or resident surgical assistant will initial the shoulder to be operated on. Two other team members will also confirm the site before surgery.

- An intravenous infusion (IV) will be started by a nurse.** The IV line provides a route for fluids, medications, and antibiotics, as necessary, and also for sedatives.
- Your anesthesiologist will see you** prior to surgery in order to review your physical condition and discuss the anesthesia you will receive. Feel free to ask any questions you may have about your anesthesia.

Regional anesthesia, normally used for shoulder surgery, is fully reviewed on Pages 14 & 15. If you feel comfortable about anesthesia based on prior experience or knowledge, you may want to pass by those pages.

At Home with Your Shoulder Surgery

Many of the functional limitations that you are experiencing now, you will also experience post-operatively, so plan accordingly for your postoperative care. If you live alone, you may want to make arrangements for someone to help during your initial recovery.

Some helpful hints: Organize your daily routine so things are easily accessible, like cookware. **Dressing:** Put your operative arm in the sleeve first when you get dressed. When getting undressed, take your operative arm out last. Loose fitting, button-down shirts are recommended. **Food Preparation:** Make arrangements before your surgery if possible.

How long your recovery will take depends on your personal goals, your general physical condition, and the nature of your shoulder surgery. Many patients experience ups and down during recuperation, so don't be discouraged if this happens. **The most critical period is the first few days and weeks, as you move toward resuming your goals.** You will be guided by your physician and your physical therapist. On your first follow-up visit, you may receive new and/or additional instructions.

Medications, take as prescribed: (Please put your "reminder" notes here.) _____

- Do not** drink alcoholic beverages or use street drugs when taking pain medications.
- Take pain medication 20-30 minutes before performing exercises, if needed.
- Do not drive a car** or operate heavy machinery when taking pain medications.

Common post-operative reactions

As you might expect, your body will react to shoulder surgery in one or more ways:

- Low grade fever (100.5°F) for a week.
- Small amount of blood or fluid leaking from the surgical site.
- Bruising along shoulder, upper arm, chest, even to your elbow.
- Swelling of the shoulder and upper arm extremity.
- Mild numbness close to the surgical site for 6-9 months.

Please accept these reactions as normal, but **be ready to call your physician if any of the items in the box at the right occurs.**

If you are unable to reach your physician and the symptoms persist, please go to the nearest hospital emergency room, but contact your physician afterwards.)

When to call your physician:

- Fever of 100.5°F persists after one week or is much higher during the first week.
- Progressively increasing pain. (Pain should steadily decrease over several days.)
- Excessive bleeding or fluid coming from surgical site.
- Increased swelling and redness to the shoulder region.
- Persistent nausea and vomiting.
- Decreased sensation in the arm on the same side as surgery.
- Persistent headache.
- Your anesthesia injection site is inflamed (reddened, swollen or oozes blood or fluid).

Post-Operative Program Before Going Home

Many shoulder patients go home the day of surgery, but some require an overnight stay in the hospital. This may be decided in advance, but your physician's post-surgery observation of your condition may make an overnight stay advisable.

When the Recovery Room staff and you feel you are ready, you will begin a series of activities, which will prepare you for going home. These activities are important preparation for your successful rehabilitation of your shoulder injury at home.

- When you are ready, the nurse or physical therapist will again instruct you in use of the cryocuff.
- The nurse or physical therapist will instruct you on putting on or taking off the sling or immobilizer and when to use it. This will be determined by your doctor.
- The nurse or physical therapist will assist you in getting up and advise you regarding safety precautions.
- If your physician has prescribed any exercises, the physical therapist will ask you to demonstrate those checked off in Your Home Exercise Program (Page 18), which you may have already been practicing at home.
- You may be given written instructions from your nurse to follow post-operatively. Prescription for pain medication will be provided, and you will be asked to make an appointment with your physician 7-14 days later. At this time we will also ask you to make an initial post-operative physical therapy session on the same day as your physician's appointment. At this session your initial post-operative exercises can be checked and the physician may prescribe new exercises. (Please bring this manual with you when you come.) In addition, a rehabilitation plan can be established.

Using Cryotherapy During Rehabilitation

You may already know the value of applying "cold" to injuries. Cryotherapy, the use of cold to treat your shoulder surgery, is an important element of your post-operative rehabilitation. It can help decrease pain, reduce swelling and inflammation. It may be implemented in the form of ice wrapped in bags or towels, commercial cold packs or compression cuffs. You will receive instructions in cryotherapy treatment. Begin using it as soon as possible after you arrive home. A common misconception about cryotherapy is that it is used only during the initial post-operative phase. Actually, it will benefit you throughout your recovery. (Do not apply heat directly to your shoulder, as it may increase swelling and inflammation.)

Your Day of Surgery, continued

- **Initial sedation:** At the proper time in advance of your surgery, you will be mildly sedated (via the IV) to minimize pain from the local anesthetic injection which follows and to reduce possible anxiety and tension. A general feeling of relaxation will follow this procedure.
 - **Injection for regional anesthesia:** The regional anesthetic is administered after the initial sedation and local injection. You will gradually lose feeling in your shoulder and upper arm, but your forearm and hand are usually affected also. To monitor this process, the anesthesiologist may ask you questions about how you feel. Shortly thereafter, you will be moved to the operating room.
 - **In the operating room:** During surgery you may remain awake or be sedated, if you chose to not be aware of the procedure. If awake, you may hear the operating team talk among themselves. You may answer questions about how you feel, and you may talk if you wish. When surgery is complete you will move to the recovery room.
 - **In the recovery room:** the nursing staff and your anesthesiologist will monitor your return to full awareness. In order to be discharged from the recovery room to home you must be able to:
 - (1) stand up and walk without feeling dizzy or lightheaded;
 - (2) urinate without difficulty;
 - (3) tolerate food and fluid (you will be offered food and drink because the staff knows how long you've been without); and
 - (4) manage your pain. As your regional anesthetic wears off you can anticipate some pain in your shoulder. However, the nursing staff will monitor this and provide you with pain medication to carry you over to home.
- When these criteria are met, your IV will be removed and you will be assisted in getting dressed.
- **When ready, you will begin the activities outlined on page 16** which are your direct preparation for going home.
 - **You will also receive a detailed instruction sheet from your physician.**

Introduction to Regional Anesthesia

Prior to your surgery your anesthesiologist will see you to review your physical condition and to discuss the type of anesthesia you will receive. Most patients undergoing shoulder surgery receive regional anesthesia. Today, approximately 98% of all ambulatory surgical procedures are carried out with the use of regional anesthesia. The alternative of general anesthesia is rarely used.

Overview of regional anesthesia: These four terms help clarify how regional anesthesia relates to your shoulder operation:

Anesthesia: the partial, or total loss of sensation in a body area or the whole body.

Anesthetic: the agent (drug) that induces anesthesia.

Local anesthetic: an anesthetic applied directly to a specific location, providing anesthesia to that immediate area or to the region affected by that location.

Regional anesthetic: An anesthetic which produces anesthesia (loss of sensation) in the given region or area of your body containing the surgical site. The regional anesthetic is applied remotely in a specific location where it "blocks" a group of nerves that otherwise would carry sensations of pain from the anatomical location or region - the surgery site.

Regional anesthesia is preferred over general anesthesia, which provides total loss of sensation in the whole body and also causes uncomfortable side effects, such as nausea, vomiting, sore throat and "hangover". It also requires a longer recovery time. In addition, a breathing tube or ventilator to help you breath is usually necessary with general anesthesia, but is not usually needed with regional anesthesia.

With regional anesthesia you will be more comfortable following surgery and can expect a smooth transition to your post-operative treatment of pain. It almost always leads to an earlier discharge from the hospital; thus its widespread use in ambulatory surgery.

Your regional anesthesia procedure

- **IV line inserted:** Before administering any regional anesthetic it is necessary to have an intravenous (IV) line in place. Your IV line provides a route for fluids, medications, and antibiotics, as necessary, and for sedatives, including the one for your initial sedation.
- **Initial sedation:** Before receiving the injection for regional anesthesia you will be mildly sedated (via the IV) to reduce possible anxiety and tension, and to minimize pain from the application of the local anesthetic which proceeds the regional one.

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Your Regional Anesthesia Procedure, continued

- **Administration of local anesthetic:** After initial sedation, a very small amount of a local anesthetic is injected at your lower neck where the regional anesthetic will be applied. The initial sedation minimizes the discomfort.
- **Administration of regional anesthesia:** The type of regional anesthetic used for shoulder procedures is called an **Interscalene Block**. A regional anesthetic is injected through a very small, thin needle in your lower neck. Because of the initial sedation and local anesthetic, you will feel very little discomfort as this is done. You will gradually lose feeling in shoulder and upper arm, but your forearm and hand are usually affected also. Shortly thereafter, you will be moved to the operating room.
- **What to expect during surgery with regional anesthesia:** In the operating room you are not left alone. You probably will be able to see the anesthesia team which always remains with you, monitoring your respiration, blood pressure, pulse, etc. They may ask how you feel and you may talk or ask questions. You may hear the surgical team talking, but a "curtain" will prevent you from seeing those at the surgical site. In any event, you will not feel the surgical procedure.
- **You may have the option of watching your arthroscopic surgery** on the same TV monitor used by the surgeons to guide their arthroscopic instruments.
- **Choosing to "sleep":** If you would like to be completely unaware of the surgical procedure, tell your anesthesiologist when he/she first talks to you. You will be given a sedative through your IV line. You will wake up in the recovery room while waiting for your regional anesthesia to wear off.
- **Your recovery:** In the recovery room your anesthesiologist and the recovery room team will monitor your safe transition from effects of anesthesia to readiness to go home.
- **Transition to pain medication after regional anesthesia:** Because the level of sedation and anesthesia are kept at the necessary minimum, you will awake soon after surgery. However, the anesthetic effect in your shoulder region usually dissipates over a period of about 5 hours. You may be discharged from the hospital with the anesthetic still in effect. You will receive a prescription for pain medication which you should get filled as soon as possible at your local pharmacy.
- **Don't try to "tough it out" with pain:** Take your pain medication before the pain becomes severe. You will rest more comfortably and be better able to carry on your assigned exercise program and other physical activities which your surgery permits.