MOON SHOULDER GROUP

For information regarding the MOON Shoulder Group, speak to your surgeon or contact:

Rosemary Sanders
6000 Medical Center East
1215 21st Avenue South
Vanderbilt University Medical Center
Nashville TN 37232-8300

POST-OPERATIVE ROTATOR CUFF REPAIR PROTOCOL

MOON SHOULDER GROUP
Introduction

The MOON Shoulder Group is a collection of shoulder experts who study the best methods to treat patients with rotator cuff tears. The post-operative treatment program in this book is based on the best available evidence. When no data is available, the MOON Shoulder Group experts developed a consensus for treatment.

Do not add or skip any part of this program. If you have concerns, please contact your surgeon.

GENERAL INSTRUCTIONS:

Continuous Passive Motion (CMP)
The Level-1 evidence suggests little or no benefit from CPM, so it will not be used.

Modalities
Level-1 evidence supports the use of cryotherapy. Patients are encouraged to use cryotherapy after surgery.

Sling Use
A sling with a small pillow is to be worn for six weeks after surgery. The sling may be removed for showering, therapy, driving, and deskwork. The sling should be worn when the patient is in an uncontrolled environment: sleeping, around children, pets, and crowds during these six weeks.

Exercise Program
Therapy is to begin within 7 days after surgery. Exercises should be performed once per day either at home or with a therapist. The exercise program is divided into four time-dependent phases. Do not advance into the next phase until the appropriate time after surgery.

Rehabilitation Diary

Using the attached form, please record each time you do therapy for your shoulder. Please record whether you do your therapy supervised by a therapist, or at home. If you have comments, please include them on the attached form.
Phase 4: Resisted Exercises (12-16) Weeks after Surgery

**Phase 4: Resisted Exercises 12-16 Weeks.**
These exercises include scapula strengthening and light stretching.

**RESISTED SCAPULA STRENGTHENING**
Scapula strengthening exercises include locked elbow extension to work the trapezius, press-up plus-reaching toward the ceiling to work the serratus. Rows may be done kneeling with elastic bands, and upright with a hand weight. Like other strengthening exercises, each exercise should be performed as 10-15 repetitions, followed by 2 minutes of rest, and repeated as 3-4 sets. Strengthening exercises should be done 3 days each week.

**SHOULDER STRETCHING**
Stretching should be done daily. Hold each stretch for 15 seconds, rest for 15 seconds, and repeat 5 times. The corner stretch will stretch the anterior shoulder. The towel stretch, cross-body stretch, and the sleeper stretch will stretch the posterior shoulder. Begin with gentle stretching. After 16 weeks, aggressive stretching may be used if needed.

---

**General Instructions**

**INCISION CARE**
After surgery, you will have a bulky dressing that may be removed after 24 hours. If you notice some drainage (fluid leaking), you may apply another bulky dressing. Under the bulky dressing, you will have thin strips of tape or “steri-strips” over your incisions. **Do not remove the steri-strips.** They will fall off by themselves.

You may shower 48 hours after surgery. To wash the underarm area, lean forward and let the arm dangle in front of you. It is ok to allow water to run across your incisions, which are protected by the steri-strips. **DO NOT get into a bathtub, pool, or spa until your sutures are removed and your incisions are completely healed to lessen the chance of skin infection.** Always wash your hands before touching your incisions. **DO NOT use any anti-bacterial creams or ointments on your incisions.**

Please contact your surgeon immediately if you notice any of the following as these could indicate an infection: 1.) Drainage from the incision; 2.) A foul odor from the incision; 3.) Any redness or warmth surrounding the incision; or 4.) Increased pain. In addition, please check your temperature if you begin to feel ill, warm or if you have chills. Contact your surgeon immediately if your temperature is above 101 degrees or you suspect you may have an infection anywhere in your body. It is not uncommon to have a low-grade temperature within the first week of surgery. You should drink fluids and breathe deeply.
General Instructions

SWELLING AND BRUISING
It is not uncommon to develop post-operative swelling and/or bruising following rotator cuff surgery. This is caused by bleeding and is expected. You may notice at first the bruising is black-red-purple that will change to a yellowish-green hue as it fades over a few weeks. You may even notice bruising extending down the arm as the blood in the tissues is influenced by gravity. You may also notice some hand swelling which should be temporary and can be relieved by squeezing a ball or making a fist repeatedly. Your body will eventually remove this fluid.

DISCOMFORT
You may need help with your daily activities, so it is a good idea to have family and friends available to help you. You can expect to have some mild to moderate shoulder discomfort. Please take your medications as prescribed and remember to use your cooling device as this also helps to reduce pain. If you have pain that your pain medicine does not relieve, please contact your surgeon’s office.

NAUSEA AND VOMITING
It is not uncommon to have nausea and/or vomiting for the first 24 hours after surgery. Please notify your surgeon’s office for any persistent nausea/vomiting. You may eat whatever you wish, however, it is recommended that you tolerate fluids and bland food before moving to your regular diet.

Phase 4: Resisted Exercises

(12-16 Weeks after Surgery)

Phase 4: Resisted Exercises 12-16 Weeks.
After 12 weeks, the patient can begin strengthening with resisted exercise using elastic bands and/or hand weights. Resisted exercises should be done 3 days per week. Each exercise should be performed as 10-15 repetitions followed by 2 minutes of rest, and repeated 3-4 times.

ROTATOR CUFF STRENGTHENING
With the arm tucked close to the body, use rubber tubing to provide resistance to internal rotation of the arm. Turn around to use the tubing to provide resistance to external rotation of the arm. Alternatively, you may lie on your side and use small hand weights to provide external rotation resistance. Do 10-15 repetitions, for 3-4 sets, for 3 days/week.

DO NOT DO FULL-CAN OR EMPTY-CAN EXERCISES!
These place too much stress on the rotator cuff.

DELTOID STRENGTHENING
With the arm tucked close to the body, use rubber tubing to provide resistance to forward punches. Turn around to use the tubing to provide resistance to pulling the arm. Do 10-15 repetitions, for 3-4 sets, for 3 days/week.
Phase 3: Isometric Exercise (8-12 Weeks after Surgery)

**Phase 3: Isometric Exercises 8-12 Weeks**
Beginning 8 weeks after surgery the patient can begin isometric exercises. Using a pillow or folded towel the patient applies pressure to the wall without moving the shoulder.

**ISOMETRIC PUSH AND PULL**
With a pillow against the wall, and the arm tucked close to the body, create pressure with the fist for forward push, and with the elbow to push backward. Hold the position for 15 seconds then rest for 30 seconds. Repeat this 10-15 times. This can be done daily.

**ISOMETRIC EXTERNAL AND INTERNAL ROTATION**
With a pillow against a wall, and the arm tucked close to the body, create pressure with the back of the hand for external rotation, and with the palm of the hand for internal rotation. Hold the position for 15 seconds then rest for 30 seconds. Repeat this 10-15 times. This can be done daily.

---

General Instructions

**YOUR MEDICATIONS**
You should resume taking all your usual medications immediately after surgery. If there are exceptions to this, your surgeon will notify you. If you have questions contact your surgeon’s office.

**BLOOD CLOTS**
Surgery may slow the blood flow in your legs, which might rarely cause a blood clot to form in the veins in the leg. The leg is usually painful and swollen. Blood clots can be serious and if you have one, you will need to go to the hospital for treatment. Walking regularly in the early post-op period can prevent blood clots. Moving the ankle a lot and rising up on your toes can lessen the risk of this complication.

Please contact your surgeon immediately if:
You develop swelling, tenderness, pain, warmth or redness in your thigh, calf, or ankle.

Call 911 if you have symptoms that might suggest a blood clot that has travelled to your lungs:
- Chest Pain
- Trouble Breathing
- Rapid Breathing
- Sweating
- Confusion
Notes for the Therapist

MOON Shoulder Group Consensus on Therapy for Rotator Cuff Repairs
In order to reduce variability so that we can truly determine features that might predict failure of rotator cuff repairs the MOON Shoulder Group met in San Diego, California on February 15, 2007 where we reviewed the best evidence and developed a standard consensus-based postoperative protocol for patients after rotator cuff tear repair:

CPM: Level-1 evidence suggests little to no benefit from CPM.
MODALITIES: Level-1 evidence supports the use of cryotherapy. Patients are encouraged to use cryotherapy in the postoperative period.
IMMOBILIZATIONS/SLING USE: A sling with a small pillow is to be worn for six weeks after surgery in uncontrolled environments (sleeping, around children or pets, around crowds). The sling may be removed for therapy, driving, and deskwork.

EXERCISE PROGRAM: Therapy begins within 7 days after surgery. Exercises should be performed daily either at home or with a therapist.

Phase 1: Passive Range of Motion 0-4 Weeks
Passive range of motion begins within 7 days after surgery. Passive range of motion requires the therapist or an assistant at home to put the arm through a comfortable range of motion while the patient is supine. Motions include forward elevation, external rotation, and abduction— all within a comfortable range. Pendulum exercises are begun during this time. Scapula exercises begin at 4 week, and are done while the patient’s arm is in the sling. Scapula exercises should include shrugs, depression, retraction and protraction. Hand, wrist, and elbow motion should be done ad lib.

Phase 2: Active Assisted Range of Motion 4-8 Weeks
This phase introduces active assisted range of motion. The patient lies supine and uses their other arm (or cane or stick) to move the affected arm into forward elevation, external rotation, and abduction. The patient does this supine at week 4, 45 degrees upright for week 5, and completely upright at week 6. After week 6 the patient can use pulleys for forward elevation.

Phase 3: Active Range of Motion 8-12 Weeks
While continuing to work on active assisted range of motion, the patient now begins active range of motion in forward elevation, external rotation and abduction. In addition, isometric strengthening exercises begin at this time. These exercises can be done daily.

ACTIVE RANGE OF MOTION
While upright, the patient moves the arm in front of the body (forward elevation) and to the side of the body (abduction)

Phase 4: Resisted Exercise 12-16 Weeks
After 12 weeks the patient can begin strengthening with resisted exercise using an elastic band or hand weights. Scapula muscle strengthening exercises are introduced. Full-and Empty-Can exercises are not allowed!

ACTIVE RANGE OF MOTION
It is important to avoid “hiking” the shoulder. Place the uninvolved hand on the affected shoulder, or do these exercises in front of a mirror to avoid this.
Phase 2: Active Assisted Motion (5-8 Weeks after Surgery)

**Phase 2: Active Assisted Range of Motion 5-8 Weeks**
Five weeks after surgery the patient’s back is propped up approximately 45 degrees and uses the unaffected arm to move the postoperative arm (or a cane or stick) into forward elevation, external rotation, and abduction. After six weeks, the patient can do these exercises while upright. These exercises can be done daily.

**45 DEGREE ACTIVE ASSISTED RANGE OF MOTION**
While propped on a pillow at 45 degrees and using a stick or cane, the normal arm will move the affected arm over the head. The arm is moved in forward elevation, abduction, and external rotation. This begins 5 weeks after surgery and is done daily.

**UPRIGHT ACTIVE ASSISTED RANGE OF MOTION**
Six weeks after surgery using a stick or cane, the normal arm will move the affected arm in external rotation, abduction and forward elevation while upright. Sitting in a chair while using pulleys is allowed at this time as well. These exercises should be done daily.

Phase 1: Passive Motion (0-4 Weeks after Surgery)

**Phase 1: Passive Range of Motion 0-4 Weeks**
Passive range of motion is to begin within 7 days after surgery. Passive range of motion requires the therapist or an assistant at home to put the arm through a comfortable range of motion while the patient is supine. Motions include forward elevation, external rotation, and abduction—all within a comfortable range. These exercises are done with each therapy visit, three times each week.

In addition, pendulum exercises can be initiated during this time. These can be done at home, twice each day.

**PASSIVE RANGE OF MOTION**
The patient lies supine and relaxes. The therapist will move the arm. The patient should relax and should not contract any muscles while the therapist moves the arm. This should be done at each therapy visit, three times each week.

**PENDULUM EXERCISES**
Use torso to move arm by rocking body weight. Go in clockwise direction then counter clockwise. Pendulum exercises can be done twice each day.
Phase 1: Scapula Exercises
(1-12 Weeks after Surgery)

Phase 1: Scapula Stabilizer Exercises
Scapula exercises begin after 1 week, and are done while the patient’s arm is in the sling. Scapula exercises should include elevation with shrugs, depression, retraction and protraction. Six weeks after surgery, these can continue out of the sling until strengthening exercises begin, 12 weeks after surgery. These exercises can be done daily.

SCAPULA EXERCISES WITH SLING – 1-6 WEEKS AFTER SURGERY
While upright and wearing the sling bring shoulder blades up as you shrug, down as you depress the shoulder, together toward the spine, and apart. Practice upright posture. These can be done daily.

SCAPULA EXERCISES WITHOUT SLING – 6 WEEKS AFTER SURGERY
After six weeks these same exercises can be done without the sling, with the arm at the side. These can be done daily.

Phase 2: Active Assisted Motion
(4 Weeks after Surgery)

Phase 2: Active Assisted Range of Motion 4 Weeks
This second phase of therapy begins with active assisted range of motion, and starts 4 weeks after surgery. The patient lies supine and uses the unaffected arm (or a stick or cane) to move the postoperative arm into forward elevation, external rotation, and abduction. These can be done daily.

SUPINE ACTIVE ASSISTED FORWARD ELEVATION
Using a stick or cane, the normal arm will move the affected arm over the head.

SUPINE ACTIVE ASSISTED EXTERNAL ROTATION
Keep the affected arm tucked close to the body. Bend the elbow to 90 degrees so the hand is pointed to the ceiling. Using a cane, the healthy arm moves the affected arm in external rotation.

SUPINE ACTIVE ASSISTED ABDUCTION
While keeping the elbow of the affected arm straight, the unaffected arm will move the affected arm out to the side of the body as high as is comfortable.