

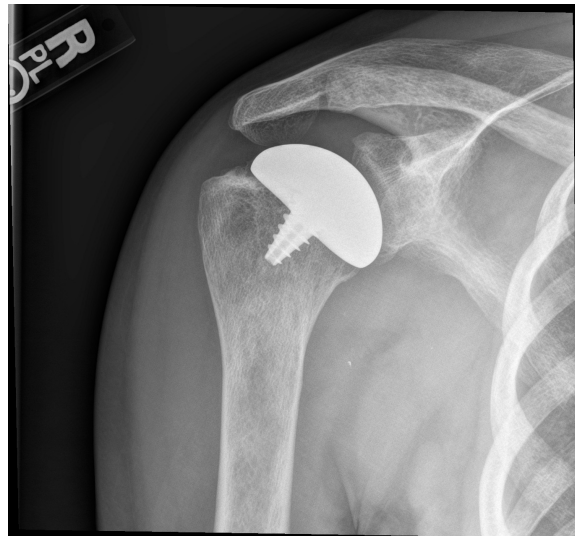
## Shoulder Resurfacing

The shoulder is a ball and socket joint that enables you to raise, twist, bend and move your arms forward, to the sides and behind you. The head of the upper arm bone (humerus) is the ball and a circular depression (glenoid) in the shoulder bone (scapula) is the socket. A soft tissue rim (labrum) surrounds and deepens the socket. The head of the upper arm bone is coated with a smooth, durable, covering (articular cartilage) and the joint has a thin, inner lining (synovium) for smooth movement. The surrounding muscles and tendons provide stability and support.

Many people know someone with an artificial knee or hip joint. Less common, but just as successful in relieving joint pain is a shoulder replacement (arthroplasty). This procedure may be recommended if arthritis or degenerative joint disease makes your shoulder stiff and painful, or if the upper arm bone is fractured so badly that tissue death may result.

However, there are some cases in which a full replacement of the shoulder is not necessary. In circumstances such as trauma, where the shoulder has dislocated and part of the shoulder is broken, or avascular necrosis, where the humeral head loses blood and the cartilage effectively dies, it may only be necessary to replace part of the humeral head. In resurfacing either all or part of the humeral head bone is replaced with a smooth metal ball. Unlike total shoulder replacement or hemiarthroplasty, however, the glenoid and the humeral canal are not violated.

The advantage of this surgery is that the native glenoid bone is preserved as is the majority of the humeral head. The disadvantage is that the longevity of the implant may be less than a total shoulder replacement. Often in cases where the glenoid cartilage is of good quality and the problem is limited to trauma, arthritis or avascular necrosis of the humeral head resurfacing arthroplasty may be an option.



Risks of the surgery include but are not limited to:

- Infection
- Instability of the joint replacement
- Fracture of either the humerus or glenoid bone
- Nerve injury
- Loosening of the joint replacement
- Anesthesia problems
- Hematoma or blood clots

## Postop Instructions

You will wake up in the operating room with a sling in place. You will go to the recovery room and then to a hospital room after a few hours. You can get out of bed when you wish. You should continue to apply ice to your shoulder to reduce pain and swelling.

Pain is usually controlled for the first 18-24 hours after surgery with a postoperative nerve block. The anesthesiologists will discuss this with you prior to your surgery. If you elect not to have a nerve block, intravenous medication will be used to help control your pain. Afterwards you will be transitioned to oral pain medications such as oxycodone or a similar medication.

While a blood transfusion is rare, it is occasionally necessary. You may discuss donating your own blood in advance so it can be given to you should you require a transfusion after surgery.

You may be discharged home on either the first or second postoperative day. You will need someone to assist you at home, so family should be aware that you will need help with simple daily living chores such as dressing, cooking, and feeding yourself. In some instances it is necessary to go to a supervised rehabilitation facility for a period of time until you can begin effectively using your arm.

## Activities & Advice for in the Hospital and while at Home

1. Please call with any concerns: 617-726-6648.
2. Apply ice to the shoulder as it will be quite helpful. After two days, you can change the dressing to a smaller one to allow the cold to better get to the shoulder. Be sure to leave the little pieces of tape (steri-strips) in place.
3. Remove the sling on the first day after surgery. Move your elbow, wrist, hand and finger several times a day. Begin the pendulum exercises several times a day. Put the sling back on when you're done with these exercises.
4. After two days it is okay to shower but do not get the wound wet for at least two weeks after surgery. Do not submerge the wound as you would in a bath tub or hot tub for at least 4 weeks after surgery. To wash under your operated arm bend over at the waist and let the arm passively swing away from the body. It is safe to wash under the arm in this position.
5. After shoulder surgery there is a variable amount of pain and swelling. This will dissipate after several days. Continue to take the pain medicine you were prescribed as needed. Remember it is called pain control, not pain elimination.
6. It is important to look out for signs of infection following joint replacement surgery. These can include: fever (temperature > 101.5°, chills, nausea, vomiting, diarrhea, redness around your incision, or yellow or green drainage from your incision. Should any of these be present please contact Dr. Price's office immediately.
7. You will need to take prophylactic antibiotics before dental procedures, colonoscopies or other invasive procedures. This consists of Amoxicilin (2 grams one hour prior to your procedure), or if you have a penicillin allergy you should take Clindamycin (600mg one hour prior to procedure). Your dentist or Dr. Price can prescribe this.
8. You will have an office visit scheduled approximately 10-14 days after your surgery.

## Phase I: 0-4 weeks after surgery

### Goals:

1. Protect the shoulder arthroplasty
2. Ensure wound healing
3. Prevent shoulder stiffness – increase passive range of motion
4. Decrease pain

### Activities:

1. Use your sling during this period. When you are at home and not moving it is okay to come out of the sling as long as you are careful and keep the shoulder safe. Your elbow should be “tucked in” to your side whenever you are out of your sling. Put the sling on when you are outside or in a crowd. Keep the sling on when sleeping at night for the first 4 weeks.
2. You may use the hand on your operated arm as long as you do not rotate your shoulder away from your body. You should bend your arm at the elbow and use your fingers and hand such as to reach up and touch your face. Keep your elbow in front of you.
3. You may shower as previously described. Do not submerge the wound under water.
4. Begin the phase one exercises. Supine exercises should be done with a small rolled towel placed behind the elbow to avoid shoulder hyperextension and anterior capsular stretch.
5. Continue to use your ice: 7 days per week, 4-5 times per day, 15-20 minutes per time
6. You will see Dr. Price at 2 weeks after surgery and again at 6 weeks after surgery.

### Exercises:

***All exercises should be done slowly to maximize muscle and soft tissue involvement. Discomfort is allowed – Pain is not. If the pain lingers after the stretch, that is too far.***

#### Weeks 1-2:

1. Pendulum exercises
2. Passive ROM
  - a. Flexion 0-75 degrees
  - b. ER in scapular plane at 10-15 degrees
  - c. IR in scapular plane at 20-25 degrees
3. Elbow/wrist/hand active ROM exercises
4. Gripping exercises for hand
5. On day 10-14 may start isometrics:
  - a. Abductors
  - b. ER
  - c. Elbow flexors
  - d. NO IR isometrics until after 14 days postop.
6. Rope and pulley (starting POD 7) – flexion to 70 degrees with elbow bent 90 degrees

#### Weeks 3-4:

1. Continue all ROM exercises
2. Initiate AROM exercises:
  - a. Progress flexion to 125 degrees
  - b. ER @ 45 degrees ABD to 25 degrees
  - c. IR @ 45 degrees ABD to 50 degrees
3. Initiate AAROM ER/IR supine with L-bar
4. Rhythmic stabilization exercises
  - a. Flexion and extension
  - b. ER/IR in scapular plane
5. Isometrics:
  - a. Flexion/extension
  - b. ER, and can start IR
  - c. Abduction
6. Scapular exercises to include prone rowing and prone extension
7. Rope and pulley

## Phase II: 5-12 weeks after surgery

*(not to begin before 4 weeks post-surgery to allow for healing)*

### Goals:

1. Protect the shoulder and avoid overstressing the repair
2. Restore full passive range of motion
3. Gradually restore active motion
4. Re-establish dynamic shoulder stability

### Activities:

1. The sling is no longer necessary. It is advisable to continue to wear it when out in public or large crowds as this may help people to avoid “slapping” you on the shoulder.
2. You may now use your operated arm. Avoid having your arm forcefully pulled.
3. Continue to avoid heavy lifting or manual labor. You should not lift anything heavier than a coffee cup. Any lifting should be done with weight in front of you.
4. Ice as needed for pain control. It is still a good idea to ice after therapy.
5. Check with Dr. Price regarding driving and getting the wound wet in a pool or bath. Both may be okay at this time.

### Exercises:

#### Week 5:

1. PROM: flexion to 160
2. ER/IR at 45 deg ABD
  - o ER to 50 degrees
  - o IR to full

#### Week 6-8:

1. AAROM with L bar (all motions to tolerance):
  - a. Flexion to tolerance
  - b. ER in scapular plane at 90 degrees abduction (ER to 55-60 deg)
  - c. IR in scapular plane at 90 degrees abduction (IR to full)
2. Rope and pulley
3. Pendulums
4. AROM exercises – supine flexion
5. Strengthening may begin:
  - a. IR and ER with resistance tubing/bands
  - b. Rhythmic stabilization flexion, extension, IR, ER
  - c. Sidelying ER
  - d. Sidelying flexion
  - e. Scapular strengthening
  - f. Prone rows
  - g. Biceps and triceps strengthening
  - h. Supraspinatous strengthening – “full can”
  - i. Lateral raises

#### Week 9-12:

1. Continue all exercises listed above
2. Prone goal:
  - a. Flexion 180 degrees
  - b. ER at 90 degrees Abd: 75-80 degrees (or to tolerance)
  - c. IR at 90 degrees Abd: 60-65 degrees
3. Continue to emphasize AROM and strength
4. Progress strengthening exercises
5. Able to initiate light golf swings (week 10-12)

## Phase III: Activity Phase (weeks 13-26)

### Criteria to initiate Phase III:

1. PROM:
  - a. Flexion 0-160 degrees
  - b. ER 75 degrees
  - c. IR 60 degrees
2. Strength level 4/5 for ER/IR/ABD

### Goals:

1. Improve strength of shoulder musculature
2. Neuromuscular control of shoulder complex
3. Improve functional activities

### Exercises:

1. AAROM and stretching exercises
  - a. Flexion with L-bar
  - b. ER/IR at 90 degrees abduction
2. Strengthening exercises
  - a. ER/IR tubing
  - b. Full Can
  - c. Lateral raises
  - d. Prone rowing
  - e. Sidelying ER
  - f. Prone extension
  - g. Biceps

Initiate interval sport program starting at week 20.