SPORTS & ORTHOPAEDIC SPECIALISTS
Total Shoulder Replacement Protocol

- **6-10 visits total over 4 months**
- Emphasis is on AAROM and a high repetition, low weight free weight program
- Address scapular mal-positioning if indicated
- Minimal to **no pain** during or after exercises, although fatigue is OK
- **No passive ROM (PROM) or pulleys unless specifically indicated by the physician**

**Subscapularis Repair Precautions:**
- No active IR or glenohumeral extension beyond midaxillary line for 6 weeks; no resisted IR until 12 weeks post-op.
- ER at 0° or less until 4 weeks post-op., 20° or less until 8 weeks post-op., and near symmetric by 4 months post-op; no ER in abduction beyond neutral for 6 weeks post-op.

**Biceps Tenodesis Precautions:**
- No active elbow flexion or supination against resistance for 6 weeks

**Modalities:**
1. Ice following exercises
2. No phonophoresis/iontophoresis
3. No ultrasound
4. Transfrictional massage for tendonitis (only if indicated by physician)
5. Soft-tissue techniques (only if indicated by physician)

**Stage I (0-6 weeks)**

Sling is to be worn for 4 weeks depending on subscapularis repair and status of rotator cuff. The physician will instruct the patient.

Patient can do tabletop activities including eating, writing, and limited computer use.

1. Stretching/ROM – follow specific limits to ROM if ordered
   a. Codman’s (pendulum) exercises 4-5x/day
   b. AAROM (wand exercises) – including flexion, supine and standing, ER to neutral, extension, abduction with neutral rotation, IR
   c. ROM exercises are frequently needed up to 12 weeks post-op.
   d. Supine rotator cuff program – **no weight**
2. Easy Isometric Exercises
   a. ER, extension, abduction, and flexion
3. Scapular stabilization exercise #1
4. Initial Goals of Stage I:
   a. Minimize post-operative stiffness, initiating ROM and strengthening program, while protecting the prosthesis during the early phase of healing
5. Progressing to Strengthening/AROM, starting at 4 weeks post-operatively.
   a. Active forward flexion in supine from 45 degrees and higher
Total Shoulder Replacement Protocol

b. Gradual increase of activities from supine to vertical
   i. Emphasize progression in supine rotator cuff program

c. Isotonic exercises #1-6 without weight
   i. Emphasize flexion and ER to limit determined in OR

d. Scapular stabilization exercises #1-5

Goals:
- Continue to address ROM and strength, while protecting the prosthesis during the early phase of healing

Stage II (7-12 weeks)
Protocol now resembles impingement protocol

1. Four corner stretch (not prior to 8-weeks post-op)
2. Isotonic exercises – strengthening exercises #1-8 as tolerated
   a. Perform with free weights only (No resistance bands – except IR exercise #6)
   b. Repetitions – 20-30 before adding/progressing weights
   c. Start against gravity without weight as in Stage II, progress as tolerated to:
      i. 2 oz. (butter knife)
      ii. 4 oz. (tuna can)
      iii. 8 oz. (soup can)
      iv. 1 lb. weight
      v. 2 lbs., 3 lbs., etc.
3. Scapular stabilization exercises #1-7

Goals:
- Improve strength to functional levels

Stage IV (12+ weeks)

1. Return to all functional activities (golf included) as allowed by the physician
2. Avoid jamming activities – hammering, contact sports
3. Isotonic strengthening exercises should be encouraged 1-2x/week for 3-6 months

This protocol provides you with general guidelines for the post-operative rehabilitation of the patient following a total shoulder replacement. Specific changes in the program will be made by the physician as appropriate for an individual patient.
PENDULUM EXERCISES (CODMAN’S)

1. Pendulum Exercises

Bend forward at the waist, (back parallel to ground is ideal). Allow involved arm to hang down, perpendicular to the floor. Keep arm and shoulder muscles relaxed. Move arm slowly, increasing the arc as tolerated. This technique should cause only minimal pain.

Perform _____ repetitions _____ times per day.

1. Front to back
2. Side to side
3. Clockwise circles
4. Counterclockwise circles
WAND EXERCISES (AAROM)

1. Pendulum Exercises
   - Bend forward at the waist, (back parallel to ground is ideal).
   - Keep arm and shoulder muscles relaxed. Move arm slowly, increasing the arc as tolerated.
   - This technique should cause minimal pain.
   - Motions:
     - Front to Back
     - Side to Side
     - Clockwise Circles
     - Counterclockwise Circles

   Perform ____ repetitions ____ times per day.

2. Flexion in Supine
   - Slowly raise arm overhead, keeping elbows straight.

   Hold ____ seconds.

   Perform ____ repetitions ____ times per day.
WAND EXERCISES (AAROM)

3. **Flexion In Standing**
   - Keep elbow straight throughout each repetition.
   - Slowly push affected arm up.
   - Hold ____ seconds.

Perform ____ repetitions ____ times per day.

4. **Extension**
   - Keep elbow straight throughout each repetition.
   - Slowly push affected arm back.
   - Hold ____ seconds.

Perform ____ repetitions ____ times per day.
WAND EXERCISES (AAROM)

5. Abduction
- Keep elbow straight.
- Slowly push affected arm up.
- ____ leading with thumb or ____ palm facing down.

Hold ____ seconds.
Perform ____ repetitions ____ times per day.

6. Internal Rotation
- Hold wand behind you.
- Slowly raise hands up then slowly return to starting position.

Hold ____ seconds.
Perform ____ repetitions ____ times per day.
WAND EXERCISES (AAROM)

7. External Rotation

- Place towel roll under elbow.
- Keep elbow bent 90°.
- Slowly push hand toward floor.

Hold ___ seconds.

Perform ___ repetitions ___ times per day.
WAND EXERCISES (AAROM)

8. Adduction
Holding on to the end of the wand with the right hand, right elbow slightly flexed, left hand is on the mid shaft on the wand and pulls right shoulder across the body (for exercising an involved right shoulder, reverse hands for an involved left shoulder).

Hold ____ seconds.

Perform _____ repetitions ______ times per day.
SUPINE ROTATOR CUFF PROGRAM

These exercises are intended for the initial strengthening of acute shoulder problems, and/or long-term rehabilitation for massive rotator cuff tears and other conditions resulting in long-term severe weakness. All of the exercises should be performed with slow and controlled motion. Stay within the pain-free arc of motion. Begin with 5-10 repetitions, advancing to 30 repetitions as able. Initially performed as active range of motion, you may add weight achieving 30 repetitions. The initial amount of weight to add is 4-6 oz. Normal fatigue signs are desirable, never an increase in symptoms.

For all “Reverse Codman” exercises use your uninvolved hand to assist your arm into a vertical position (pointing toward the ceiling).
SUPINE ROTATOR CUFF PROGRAM

1. Reverse Codman’s (Supine Elevation)

Lie on your back, use your uninvolved hand to assist your arm to a vertical position (your upper arm pointed to the ceiling). Actively move your arm over head, then toward your hip, keeping your elbow straight. Stay within the range (arc of motion) that is pain free and in control of your arm. Over time gradually increase to full range of motion. May use wand for assistance and have uninvolved arm guide the movement.

Perform _____ repetitions _____ times per day.

2. Lateral Reverse Codman’s

- Lie on your back, use your uninvolved hand to assist your arm to a vertical position (your upper arm pointed to the ceiling).
- Actively move your arm across your chest and then out to the side, keeping your elbow straight.
- Stay within the range (arc of motion) that is pain free and in control of your arm. Over time gradually increase to the full range of motion.

Perform _____ repetitions _____ times per day.
SUPINE ROTATOR CUFF PROGRAM

3. Circumduction Reverse Codmans

Lie on your back, use your uninvolved hand to assist your arm to a vertical position (you upper arm pointed towards ceiling). Actively rotate your arm clockwise, complete reps, then counterclockwise, keeping your elbow straight. Stay within the range (arc of motion) that is pain free and in control of your arm. Over time gradually increase circumduction range of motion.

Perform _____ repetitions
_____ times per day.

4. Shoulder Flexion (bench press)

Lie on your back. Begin with your elbow at your side, as shown. Reach toward the ceiling, straightening your elbow as you reach (like a slow punch to the ceiling or bench press). You may use a wand for assistance and have the uninvolved hand guide the movement.

Perform _____ repetitions
_____ times per day.
SUPINE ROTATOR CUFF PROGRAM

5. Scapular Protraction (punch to ceiling)

Lie on your back. Use your uninvolved hand to assist your arm into a vertical position (your upper arm pointing toward the ceiling). Reach as far toward the ceiling as possible by moving your shoulder blade toward the ceiling. Then lower your shoulder blade back to the resting position, keeping your elbow of your affected arm straight the entire time.

Perform _____ repetitions _____ times per day.

6. Modified Abduction

Lying on uninvolved side, raise involved arm to approximately 60° away from the body while keeping your elbow straight, then slowly lower it back to its resting position.

Perform _____ repetitions _____ times per day.
SHOULDER ISOMETRICS

1. **Flexion**
Press hand forward into wall.

2. **Extension**
Press hand backward into wall.

3. **Abduction**
Place towel inside arm. Push elbow into wall.

Hold _____ seconds.
Perform _____ repetitions _____ times per day.
SHOULDER ISOMETRICS

4. Adduction
Place towel inside arm. Pull arm in toward body.

5. External Rotation
Place towel inside arm. Press back of hand into wall.

6. Internal Rotation
Place towel inside arm. Press palm of hand into wall.
FOUR CORNERS STRETCH

1. **Flexion**

Stand 1-2 feet away from a wall. Place your hand on the wall and lean slightly forward while sliding your hand up the wall, creating a stretch in your shoulder.

**Hold ___ seconds**

**Perform ____ repetitions.**

2. **Abduction, and External Rotation**

Stand in a doorway with your hand on the wall as shown. Lean forward slightly creating a stretch in your shoulder.

**Hold ___ seconds**

**Perform ____ repetitions.**
FOUR CORNERS STRETCH

3. **External Rotation**

Stand in a doorway with your hand on the wall as shown. Turn toward the opposite side (i.e. if stretching the right shoulder turn to your left), creating a stretch in your shoulder.

**Hold ____ seconds.**

**Perform ____ repetitions.**

4. **Internal Rotation**

Stand with your back to an object, such as a counter or doorknob, placing your hand on the object. If an object of appropriate height is not available, stand with your back to a door frame and grasp the frame. Create a stretch in your shoulder by slightly bending your knees.

**Hold ____ seconds.**

**Perform ____ repetitions.**

5. **Adduction**

Stand and take your arm across your body as if reaching for opposite shoulder and back, place your hand from your opposite shoulder/arm on the elbow to gently pull your arm across your body.

**Hold ____ seconds.**

**Perform ____ repetitions.**
SHOULDER STRENGTHENING EXERCISES

General

1. Exercises should not be painful.
2. Perform exercises slowly.
3. Maintain the correct position.
4. Warm up prior to using weights – stretching and pendulum exercises as instructed.
5. Ice after exercise for 10-20 minutes.
6. Exercise 4 days a week.

Perform _____ repetitions.

1. Flexion
   - Start with arm at side, thumb forward.
   - Raise arm to shoulder level (parallel to ground).
   - Lower slowly to starting position.

2. Abduction
   - Start with arm midway between front and side of your body, thumb pointing up.
   - Raise arm sideways to shoulder level in scapular plane.
   - Lower slowly.
SHOULDER STRENGTHENING EXERCISES

3. Abduction

- Start with arm midway between the front and side of your body, thumb down.
- Raise arm diagonally to 45° level and lower slowly to starting position.

4. External Rotation

- Lie on uninvolved side.
- Place a towel roll under elbow. Keep elbow bent at 90° squeeze shoulder blades together.
- Raise hand away from stomach toward the ceiling.
- Lower slowly to starting position.

5. External Rotation

- Keep elbow bent at 90°.
- Squeeze shoulder blades together.
- Raise hand up.
- Lower slowly to starting position.
SHOULDER STRENGTHENING EXERCISES

6. **Internal Rotation with Theraband**
   - Place resistance band in door.
   - Squeeze shoulder blades together.
   - Pull hand toward stomach.
   - Slowly return to starting position.

7. **Wall Push-Ups**
   - Perform standing push-ups against the wall.
   - Progress to a counter top, then to the floor with knees bent and then floor with knees straight.

8. **Biceps Curls**
   - Raise hand toward shoulder with palm up.
   - Lower slowly to starting position.
SCAPULAR STABILIZATION

General Guidelines
1. Exercises should not be painful.
2. Perform exercises slowly.
3. Maintain the correct position.
4. Ice after exercise for ____ minutes.
5. Perform ____ times per day for ____ days per week.

1. Scapular Retraction
   - Pull shoulder blades together and down.
   Hold ____ seconds
   Perform ____ repetitions.

2. Scapular Depression
   - Place resistance band over door, squeeze shoulder blades together while pulling your arm to your side.
   - Slowly return to starting position.
   Perform ____ repetitions.
SCAPULAR STABILIZATION

3. Extension

- Start with your arm hanging straight down with your thumb pointing down.
- Raise arm backwards and slowly return to starting position.

Perform ___ repetitions.

4. Horizontal Abduction

- Start with your arm hanging straight down with your thumb pointing out.
- Raise arm out to the side to shoulder level (parallel to ground) and then slowly return to starting position.

Perform ___ repetitions.

5. Proprioception (Countertop)

- Place your hands on a countertop.
- Slowly shift weight from one side to the other.
- Keeping shoulder blades flat to your back.

Perform ___ repetitions.
SCAPULAR STABILIZATION

6. Proprioception (Wall)

- Stand facing a wall.
- Keep your shoulder blades together and down and make circles with a ball in a clockwise direction.
- Repeat same number of reps in a counterclockwise direction.

Perform ____ repetitions.

7. Proprioception (Ball dribble)

- Stand facing the wall.
- Keep your shoulder blades together and down and dribble to ball off of the wall.
- You may advance to dribbling the ball in shapes and patterns.

Perform ____ repetitions.

8. Wall Push-Ups

- Perform standing push-ups against a wall.
- Progress to countertop, then floor with knees bent and then floor with knees straight.

Perform _____ repetitions.
9. **Proprioception (Hands & Knees)**

- Get on your hands and knees.
- Keep your shoulder blades together and down and make circles with the platform in a clockwise direction.
- Repeat same number of reps in a counterclockwise direction.

Perform ____ repetitions.