• 4-6 visits over 6 weeks (usually 2-3)
• Emphasis is on high repetition, low weight free weight program
• Address muscular and capsular dysfunction, including posterior capsule tightness, which lead to impingement
• Address scapular mal-positioning
• Minimal to no pain during or after exercises, although fatigue is OK
• No passive ROM (PROM) or pulleys unless specifically indicated by the physician

I. Modalities:
   A. Ice following exercises
   B. Transfrictional massage for tendonitis (if indicated by physician)
   C. No phonophoresis/iontophoresis
   D. Ultrasound (if indicated by physician)
   E. Soft-tissue techniques (if indicated by physician)

II. Stretching/ROM (2x/day) – if indicated for short musculature or capsular hypomobility (ie. Internal Rotation)
   A. Codman’s (pendulum) exercises to warm up
   B. Four corner stretch
   C. AAROM (wand exercises) in all movements – full ROM as tolerated – accept minimal pain only!
   D. Manual technique for posterior capsular stretching (rarely necessary)

III. Strengthening – all exercises pain-free ROM only (3x/week max)
   A. Isometric exercises
      1. If cuff injury suspected, avoid isometrics and proceed directly to isotonics

   B. Isotonic exercises – strengthening exercises #1-8 as tolerated
      1. Perform with free weights only (No theraband - except IR #6)
         a. Repetitions – 20-50 reps before adding/progressing in weight
         b. Start against gravity without weight; progress as tolerated to:
             - 2 oz. (dinner knife)
             - 4 oz. (tuna can)
             - 8 oz. (soup can)
             - 1 lb. Weight
             - 2 lbs., 3 lbs., etc.
2. Goals:
   a. Overhead athlete: 3-5 lbs x 50 reps.
   b. General rehab candidate: 1-3 lbs x 30-50 reps.
   c. Progress weight as tolerated – painfree (examine with elbow at side, usually progress faster to higher weights)

C. Scapular stabilization exercises – #1-8 as tolerated
   1. Particular emphasis if scapulothoracic weakness or maltracking present
   2. Emphasize inferior trapezius and serratus anterior - Inhibit excessive superior trapezius

IV. Return To Activity:
   A. Gradual return to activity implemented once activities of daily living are painfree or a satisfactory functional capacity has been reached.
   B. Maintenance and continuation of isotonic strengthening exercises should be encouraged 1-2x/week for 3-6 months.

V. General Information:
   A. Emphasize improved strength via neural recruitment, tissue remodeling and correct scapular positioning

This protocol provides you with general guidelines for the conservative rehabilitation of the patient with Impingement Syndrome (IS). The physician will make specific changes to the program 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
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.**
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.**
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.
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.
**5. Abduction**

Keep elbow straight.
Slowly push affected arm up.

___ leading with thumb
or ____ palm facing down.

Hold ____ seconds.
Perform _____ repetitions

_____ times per day.

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**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.
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.
SHOULDER ISOMETRICS

Hold _____ seconds.

Perform _____ repetitions _____ times per day.

1. Flexion
   Press hand forward into wall.

2. Extension
   Press hand backward into wall.

3. Abduction
   Place towel inside arm.
   Push elbow into wall.
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.
SHOULDER STRENGTHENING EXERCISES

General Guidelines

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.
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 Theraband 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 theraband over door, squeeze shoulder blades together while pulling your arm to your side. Slowly return to starting position.

Perform _____ repetitions.
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 while keeping your shoulder blades flat to your back.

**Perform _____ repetitions.**
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.**