

Shoulder Impingement Syndrome: Evaluation Summary

The number or numbers in brackets refer to the page or pages in the [Shoulder Impingement Syndrome Care Pathway](#) on which the topic is discussed.

KEY SYMPTOMS OF IMPINGEMENT IN THE PATIENT UNDER 35

- Toothache-like pain in the anterior acromion process (just inferior to the AC joint) or in the lateral shoulder, initially noticed after the provoking activity. Pain can also be referred into the lateral elbow, mimicking lateral epicondylitis.
- Pain that may progress and become present during the provoking activity and affect job or athletic performance.
- Avoidance of the provoking activity leads to relief of pain.
- Without activity modification or treatment, the discomfort can become worse at night and the patient often experiences inability to perform the activity that provoked the symptoms.
- Over months to years, the shoulder becomes stiffer and sometimes exhibits tenderness over the AC joint and painful “catching” when returning from an abducted or flexed position.

KEY SYMPTOMS OF IMPINGEMENT IN THE PATIENT OVER 35

- A prolonged history of shoulder pain and refractory tendinitis.
- Toothache-like pain that ranges from minimal to severe, is often worse at night, and often prevents athletic or job-related activities of the involved shoulder.
- Shoulder weakness due to pain (not true muscle weakness).
- Shoulder movement is often associated with crepitus. Minor trauma can result in a complete tear of a weakened rotator cuff tendon in this stage.

KEY PHYSICAL EXAM PROCEDURES

The following procedures should be included in the examination.

- Postural evaluation [14]
- AROM of GH joint (include Apley’s scratch tests and the unloaded empty-can test). [9]
- Static palpation of joints and soft tissue of the shoulder girdle, cervical and thoracic spine, and upper ribs. [10]
- Passive ROM and orthopedic procedures
 - *To screen for impingement:* Neer’s impingement sign, Hawkins-Kennedy maneuver. [9]
 - *To screen for instability:* supine apprehension test, load and shift maneuvers, relocation test. [11]
 - *To screen for labrum tears:* clunk test, crank test, or “O’Brien’s sign.” [12]
 - *To test for other specific structures:* horizontal adduction, biceps extension maneuvers, push-up test. [10, 13]
- Tests of the scapular and GH muscles (including the loaded empty-can test, and Speed’s test). [10, 12, 13]
- Motion palpation of the GH, AC, SC, upper ribs, and cervical and thoracic spine. [13, 14]
- Cervical ROM and orthopedic tests as needed. [8, 14]

Evaluation Steps [7-14]

1. Establish the diagnosis of impingement syndrome. [8-9]
2. Identify the soft tissue structures impinged. [10]
3. Identify the etiologic and predisposing factors contributing to the impingement.
 - * GH instability/hypermobility [11]
 - * Glenoid labrum tears [12]
 - * Rotator cuff considerations [12-13]
 - * Joint restrictions in the shoulder girdle [13]
 - * Aberrant scapulothoracic movements [13]
 - * Postural and spinal factors [14]
 - * Environmental and behavioral factors [14]

SUMMARY OF OPERATIONAL END POINTS

ACUTE PHASE

- Patient can tolerate acute phase home exercises with little or no discomfort.
- As inflammation clears, severity of pain is reduced.
- No visible signs of swelling or bogginess (compared with well shoulder).
- Pain, if present, decreases at rest.

REHABILITATION: PHASE 1

- Painless AROM of approximately 45-60 degrees in flexion and scaption plane.
- Isometric exercises can be performed to maximum effort without pain in all motions including IR, ER, flexion, extension, and scaption. Multiangle isometrics (MAI) are begun in pain-free limits.
- The patient can demonstrate good scapular awareness, sternal lift, and neutral cervical posturing.

REHABILITATION: PHASE 2

- Patient has achieved full pain-free AROM without recruitment.
- Progressive gains in muscle strength are evidenced by upgrades in band resistance or weights.
- Good scapulothoracic control is displayed (e.g., no unnecessary winging or shoulder hiking, good engagement of the lower and middle trapezius).

REHABILITATION: PHASE 3

- Patient can perform strengthening program to fatigue and to full range of motion

REHABILITATION: PHASE 4

- Patient no longer demonstrates reasonable progression while performing certain assigned exercises,
or
- Patient appears to perform at work or sport at pre-injury performance levels.

Shoulder Impingement Syndrome: Treatment Summary

The numbers in brackets refer to the page(s) of the [Shoulder Impingement Syndrome](#) care pathway in which the office treatment or home care procedure is discussed. The figures can be found in the [Shoulder Impingement Appendix](#). An asterisk refers to an applicable procedure or protocol, which you will find in the CSPE binder.

Office Treatment: Acute Phase

- Electromodalities/ice [19, 47-49, Figs. XI-XIII, *]
- Passive ROM/mobilization [20, 51]
- Gentle mobilization/manipulation of GH [20, 39-43]
- Teach isometrics [21, 53, Fig. III]
- Adjust AC, SC, spine, etc. (now or in next phase) [22, 39-41, Fig. IV]
- Teach postural first aid [22, 50-51]

Other Options

- Gentle massage [19, 46-47]
- MFTP therapy [19, 44-45]
- Bracing (if necessary) [23]

Home Care: Acute Phase

- OTC/botanicals/ice therapy [19, 59-60, *]
- Codman pendulum/wand [20, 51, Fig. I a-b]
- AROM: IR and ER [20, 51-52]
- Isometrics/ball squeeze [21, 53, Fig. III]
- Aerobic activity
- Activity modification (2-6 weeks) [23, 57-58]
- Avoid impingement positions [23, 57-58]

Other Options

- Home TENS or microcurrent [19, 47-49, *]

Office Treatment: Phase 1 (Week 1-2)

- Transverse-friction massage [25, 41-44, Fig. X, *]
- Manipulate GH, shoulder girdle, ribs, and cervical/thoracic spine [22, 29, 39-43, Fig. IV]
- Stretching techniques (e.g., PIR) [26, 40-47]
- Stretch post. capsule (if nec.) [26, 46, Fig. I c]
- Doctor-assisted ROM (flx/ext/scap) [26, 51]
- Teach MAI [27, 53]
- Teach scapular and serratus awareness [28-29, *]
- Postural education [29-30, 50-51, Fig. VI]
- PT for pain (as needed) [30, 47-49, Figs. XI-XIII, *]

Other Options

- Contrast therapy [25, *]
- Massage (e.g., effleurage) [25, 47]
- PT [25, 47-49, Figs. XI-XIII, *]
- Russian stimulation [28, 49]
- Teach short arch [30, 57, * *Low Back Rehabilitation, standing track*]

Home Care: Phase 1 (Week 1-2)

- Warm-up: (UBE, if available) [24, 54]
- PROM (or assisted): pendulum/wand/wall walk [26, 51, Fig. I a, b]
- AROM in flexion, extension, scapular elevation [26, 51-52, Fig. V]
- MAI: IR, ER, flexion, extension, scaption, elbow flexion [27-28, 53]
- Begin scapula track exercises [28-29, *]
- Sternal lifts; chin tucks [29-30, 50-51]
- OTC/botanicals (as needed) [30, 59, *]
- Maintain aerobic activity

Other Options

- Contrast therapy [25, *]
- Nutritional supports [25, 59]

Office treatment: Phase 2 (week 2-4)

- Continue transverse friction and other soft-tissue therapy [41-44, Fig. X]
- Continue to adjust shoulder and spinal joints as needed [39-41]
- Continue stretching, myofascial release, ROM [26, 45-47, 51-52]
- Teach strengthening exercises rotator cuff, biceps, scapular stabilizers [33, 53-56]
- PN F cross-patterns [34, 56, Fig. VIII]

Other options

- PT [47-49, Figs. XI-XIII, *]
- May begin rockerboard and BOING™ now or in next phase [34, 57, *Low Back Rehabilitation] [34, 56, Fig. XIV]

Home Care: Phase 2 (week 2-4)

- Warm-up: UBE (if available), MAI for cuff (IR, ER) [31, 54]
- Continue stretching and AROM [32] [32, 51-52]
- Continue serratus and scap track (wall angels) [32, *]
- Strengthening exercises cuff and biceps
 - Prone horizontal abduction (w/ER) [33, 53, Fig. VII a]
 - Isotonics: flx/scap, IR & ER, biceps (palm up/down) [33, 53-56]
 - MAI abduction/adduction [33, 53, Fig. III d]
 - Lat pull down (if available)/Chair press-up [33, 53] [33, 53, Fig. VII b]
- Begin rockerboard and BOING™ activities (optional) [See Office Treatment, Phase 2]

NOTE: In Phases 3 and 4, office treatment procedures and home care summaries will be presented under a combined heading, which reflects the natural blending that occurs at this point in rehabilitation.

Office Treatment and Home Care: Phase 3 (Week 4-6)

- Strengthen GH and biceps muscles (emphasize eccentric contractions) [35-36, 52-56]
- Build scapular muscle endurance [35, 36]
 - Push-ups with a plus; serratus punch [*]
 - Scapular retraction; wall angels [*]
- Give functional exercises that mimic sports or occupational activities [36]
- Adjust, stretch only if necessary

Other Options

- Continue BOING™ and PNF diagonals [36, 56, Fig. XIV] [36, 56, Fig. VIII]
- Continue rockerboard activities [36, 57]

Office Treatment and Home Care: Phase 4 (Week 6-8)

- Teach physioball activities; continue BOING™ [37, 56-57]
- Teach advanced cervicothoracic and scapulothoracic stabilization [37, *]
- Continue functional-demand training [38]
- Teach advanced rocker/wobble board activities [38, 57, Fig. IX]
- Plyometric exercises (medicine ball, wall bounce, mini-trampoline) [38, 56]