Posture Evaluations, Part 5: A Corrective Exercise Strategy for Scapular Winging

By Jeffrey Tucker, DC, DACRB

I have yet to meet a chiropractor who is not looking for a universally applicable step-by-step treatment approach to help patients reclaim and transform numb, tingling, tight, stiff or painful body parts so they can feel, in each moment, wholeness and well-being.

However, after 28 years in practice, I don’t think there is such a step-by-step treatment approach. I think we develop individual treatment approaches or processes depending on the chiropractor, the patient and the circumstances.

My current treatment approach includes using manipulation/mobilization, warm laser, deep muscle stimulator, fascial release, foam rolling, stretching, muscle activation, core work, and whole-body exercises (often utilizing bands and kettlebells). In the past four articles, I discussed looking more closely at static posture to see what this reveals to assist in our clinical decision process. In the last article, I presented information we can use to look at the shoulder during a static posture evaluation. Now let’s connect what we see in the winged scapula to the corrective exercise strategies we can prescribe for this dysfunction. Please keep in mind that the best exercise you select for your client is the exercise that produces carryover, meaning it improves movement capacity and movement quality, in this case of the scapula.

Postural Analysis of Scapular Winging

Static postural analysis may reveal scapular winging. However, I use many tests to determine what the scapula is doing functionally. Let’s consider some possible scenarios:

- Winging may be noted during glenohumeral joint flexion.
- Winging may be noted during glenohumeral joint abduction/elevation.
- Winging may be noted during the return from glenohumeral joint elevation, most notably during the first half of the movement from 180 degrees to extension.
- Winging of the entire medial scapula border may be noted on the push-up “plus” movement pattern test challenge.
If you see scapular winging in the static posture evaluation, have the patient elevate the arm maintained in external rotation. Elimination of scapula winging confirms posterior instability.

The scapula is also probably winging if you get stuck in the bottom position on the bench press, in which case you need serratus anterior strengthening work. (This can be accomplished with military press work and incline front raises.)

Scapular winging during any of these movement assessments indicates a mechanical defect of an underactive serratus anterior (SA), a long serratus anterior nerve dysfunction or a motor coordination problem. The SA is considered a global stability muscle of the scapula. The serratus originates on the profound side of the medial border of the scapula and passes to attachments on the first nine ribs. The serratus pulls the scapula inferiorly and laterally; the rhomboids pull the scapula superiorly and medially. A chronically shortened or overactive serratus will pull the scapula wide on the posterior rib cage, causing the rhomboids to be strained long. This pattern frequently accompanies a kyphotic thoracic spine.

A winged scapula is often associated with overactive pectoralis minor muscle length. A short pectoralis minor muscle (a common postural finding) pulls the scapula forward and down by tilting the scapula anteriorly. The coracoid process moves anteriorly and inferiorly and the inferior angle of the scapula moves posteriorly. It produces medial rotation of the scapula (downward rotation of the glenoid). This explains how the overactive pectoralis minor muscle alters the scapular movement. Palpation of the pectoralis minor muscle will demonstrate tenderness if it is overactive. The shortening of the pectoralis minor is related to SA and trapezius muscle imbalance. This imbalance is one scenario responsible for patients with impingement syndrome. Part of the scapular winging treatment plan is correcting the muscle length-tension of pectoralis minor.

**Exercises to Improve Scapular Winging**

If there were a set program for all scapular winging patients, we would have found it by now and scapular winging would be rare. I suggest you use some of these exercises as a base, observe the response over a couple of weeks and act accordingly. Teaching awareness of proper scapular position is first. Train normal scapular alignment in the seated, standing, wall lean and quadruped positions.

**Push-Up / Serratus Plus:** The "push-up plus" or "serratus plus" seems to be the most popular exercise used to strengthen the SA muscle. To properly perform this exercise, the patient needs to know these tweaks: 1) In the push-up position, place the thumbs together. 2) Lift the hands slightly above shoulder height (the
hands should be under the eyes) and add slight internal rotation. 3) Just move the shoulder blades, don’t move the head or drop the hips. 4) Push the scapula apart, let gravity push them back together again, push the scapula apart (that is one repetition). If the patient can’t get into a push-up position, start them out on the forearms.

In my experience, doing "push-up plus" variations is the quickest way to correct a weakness. For example, progress to reaches from prone-on-forearms; reaches from a plank position cause more weight to shift into the SA and cause reflex stabilization. Moving from prone-on-forearms to the start position of a push-up also has deep developmental roots from a sensory standpoint. I like to have patients perform a downward dog (yoga position) and add a push-up plus between each downward dog. This helps produce stabilization through better perception in the core and shoulder girdle.

**Band or Cable Chops and Lifts.** The chop is performed by attaching tubing or a cable at a high point of attachment and holding both handles. Kneel at an outward angle with the outside knee down. Both knees should be flexed at 90 degrees. The patient should narrow their base to within 6-inch width of knee of one leg and heel of the other. Hold hips directly under the trunk and spine erect with the shoulders back and scapula properly placed. Arms should be extended with palms facing together while holding the handles. Pull the tubing down and across the chest while keeping it close to the body. Shoulders should turn minimally and the head should face forward. All actions should be done with the arms. The tubing should come across the body from shoulder to opposite hip, palms facing down. Tubing should be in line with the closest arm. Before starting the exercise, make sure the scapula are set properly.

The lift is performed with the tubing at a low point of attachment. The patient should grab both handles and kneel at an outward angle with inside knee down. Both knees should be flexed at 90 degrees.

**Incline Push-Ups:** Use a power rack to perform incline push-ups on a barbell. Patient should start with the body at the lowest incline that doesn’t allow their shoulders to wing, which means placing the bar relatively high. Perform three sets of between eight and 12 repetitions. As they become stronger and learn to control their scapular motion, they can work their way down the rack until they’re doing regular push-ups with perfect body alignment.

**Serratus Punches:** I have prescribed serratus punches in the supine position, the standing position, with hand weights, without hand weights, with tubing and with cable. This is one exercise you just have to tinker with until it achieves the desired effect of activating the SA.
Shoulder Scaption: Every chiropractor should know shoulder scaption because it has such overall benefits for all kinds of shoulder conditions. Holding a light pair of dumbbells (1-5 lbs), the patient stands with the arms in the scapular plane with the thumbs down. As the arms are raised, they begin to rotate externally (thumbs begin to rotate outward). By the time the arms are at shoulder level, the thumbs should be facing up. The elbows stay straight throughout the exercise.

Two other reminders: Instruct your patients to avoid slumped postures and use manipulation to the mid-upper thoracic spine fixations.

Resources


Editor’s note: Part 1 of this article ran in the March 12, 2010 issue; part 2 appeared in the June 17, 2010 issue; part 3 ran in the Aug. 26 issue; and part 4 appeared in the Oct. 21 issue.

Click here for more information about Jeffrey Tucker, DC, DACRB.