Disclaimer

The author is not currently practicing in the health/fitness field. The "client" is a friend of the author's. The author poses the hypothetical situation: "Within my scope of practice, this is how I would best address the client's issues and the objectives of this assignment".

Additionally preceding the following "reinforce" discussion, the author assumes: no clinical presentation of "pain"; the "reset" portion has been successfully conducted (e.g. addressing breathing, and posture), and any mobility issues have been resolved (mobility before stability) in order to "earn stability".

Client Description

Mr. A is a 38 year old strength-conditioning coach, and multidisciplinary combat arts expert/instructor including karate and Brazilian jiu-jitsu. As an ex-semi-professional football player, he has had multiple injuries including over-extending a straight punch years ago which insulted his left shoulder (rotator cuff) resulting in slightly-limited ("sticky") end-range shoulder flexion range of motion (ROM), and mild-moderate medial-border left scapula "winging". Mr. A also exhibits a slight upper-crossed (UC) posture from years of martial arts guard stance. Mr. A admitted to having tight trapezius.

Medial-Border Scapulothoracic (ST) Congruency

Medial-border "winging" of the scapula describes the prominence of the medial border (static/dynamic) due to the failure in maintaining congruency between the scapula's medial border and thorax. The serratus anterior (SA) seems to be a key contributor in ST stabilization by maintaining the medial-inferior borders of the scapula, and eccentrically decelerating downward rotation, retraction, and anterior tipping (Brookbush, 2015; Park et al., 2014; Srikumaran et al., 2014). Park et al. (2014) and Srikumaran et al. (2014) noted significant "winging" where SA contributions were lacking--weak SA, SA palsy, insult to the long thoracic nerve.

ST kinematics are complicated; it would be a gross oversimplification to attribute the entire dysfunction to SA. The author is presenting one possible contributing factor that may be addressed in a non-clinical environment. SA works synergistically with the trapezius in upward rotation, with pectoralis minor in protraction, and with the lower trapezius in posterior tipping (Brookbush, 2015). Muscle imbalance could result in synergistic dominance and reduced SA activation.

Corrective Rationale

Protective reinforcement of Mr. A's ST stability issue would include: education in ergonomics; incorporating regular self-myofascial release for the pectoralis minor and upper-middle trapezius; taking postural "breaks" when he is not in fighting stance to address UC; and postural "checks" during his long driving commute in addition to breathing exercises. These are minor changes to Mr. A's activities of daily living that could be extremely effective overall ("big bang for the buck").

Corrective reinforcement of Mr. A's stability issues would emphasize ST coordination/reactivity/timing providing an effective initial step (please refer to the author's post in Module 6, particularly discussing reflexive stability). The exercises should reinforce the concept (and author's philosophy) of the whole-body working as an integrated tensegrity system.

Corrective Exercises

The author does not specify sets and reps as most of these follow the principle, "it depends". It depends on what the client's day is like.

1. Sliding Overhead Press.

Reference Verstegen and Williams (2014) p. 288.

Level 1. Supine.

In supine position with hips and knees bent, place your arms out to your side with elbows bent at 90° (as if doing an overhead dumbbell shoulder press).

Key cuing:
With the arms/hands maintaining contact with the ground, slide arms overhead. Maintain proper breathing. Go as far as you can maintain contact with the ground. Pay attention to how the scapula feels--think of initiating the movement from the scapula (your hands are there along for the ride). Maintain tension through your hand and through your fingers' extension (without gripping).

Progressing:

a) Level 1 with legs straight out.

b) Level 1 with knees bent, using a Thera-Band (lie on top of the middle of the Thera-Band and hold ends of band in hands, or any derivative such that the lines of force are parallel to the overhead motion). Progress b) by positioning legs straight out.

Level 2. Seated.

Repeat in a seated position with the back against the wall and knees bent.

Progress level 2 in similar fashion to level 1a and 1b.

Level 3. Standing.

Repeat in a standing position with the back against the wall.

Progress level 3 using a Thera-Band similar to 1b.

2. Handwalk.

Reference Verstegen and Williams (2014) p. 169.

Level 1.

Assume a straight-arm plank position (if straight-arm cannot be maintained, start with elbows bent supported by the forearms). Hold as long as you are able to in good form. Have the spotter make sure that the scapula does not start winging. Stop if fatigue promotes winging.

Key cuing:
Imagine drawing your scapula toward your butt (practice proper "packing" or "sticky" shoulders without having shoulders creep up to one's ears). If you are supported by your forearms (elbows bent), make a fist (or grip a small towel in each hand). If you are doing a straight-arm plank, then use your fingers to grip the ground, imagining turning the lid of a jar towards the "outside" (laterally). Use active hands/fingers.

Level 2.

Level 2 is a repeat of the plank in level 1 with the addition of an unstable surface either under the hands or under the feet. Examples are: Airex pads under the hands or feet, vibration plate, or start in a prone position on the stability ball with the ball positioned under the hips (progress by positioning the ball further away).

Level 3.

Refer to the "handwalk" exercise illustration, right column, second row photo (body in pike position or downward dog).

Assume the downward dog position, and hold with good form. Pay attention to the key cuing; use active hands.

Level 4.

Do the full "handwalk" exercise. Pay attention to the key cuing; use active hands.

3. Arm Bar.

Reference Verstegen and Williams (2014) p. 238.

Level 1.

Without using resistance, follow steps 1-3 from Verstegen and Williams (2014), and photos 1-2 (client still in supine position).

Key cuing:
Watch for fluid movement/positioning of the body--working as one integrated system. Make a fist/grip and maintain tension through the hands. "Punch" the sky. Spotter ensures proper alignment. Be conscious of the scapula.

Level 2.

Follow level 1, except keep holding arm up in the air. The spotter will then place an appropriate weight (preferably kettlebell) in client's hand. Client should grip tightly and maintain this position in good form for as long as possible. Spotter removes kettlebell, and client resumes starting position. If a spotter is not available, then proceed to level 3.

Level 3.

Follow the instructions 1-3, by Verstegen and Williams (2014), p. 238. Your ending position should look like the second photo.

Note: The author would classify the half or full Turkish Get-Up as a "reload" exercise. For "reinforce", the arm bar is suitable.

Chung 05.04.2016

Reference

Brookbush, B. (2015, April 21). Serratus anterior. Retrieved from https://brentbrookbush.com/articles/muscular-anatomy/serratus-anterior/

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Srikumaran, U., Wells, J. H., Freehill, M. T., Tan, E. W., Higgins, L. D., & Warner, J. P. (2014). Scapular winging: A great masquerader of shoulder disorders: AAOS exhibit selection. *The Journal of Bone and Joint Surgery. American Volume, 96*(14), 1-13.

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