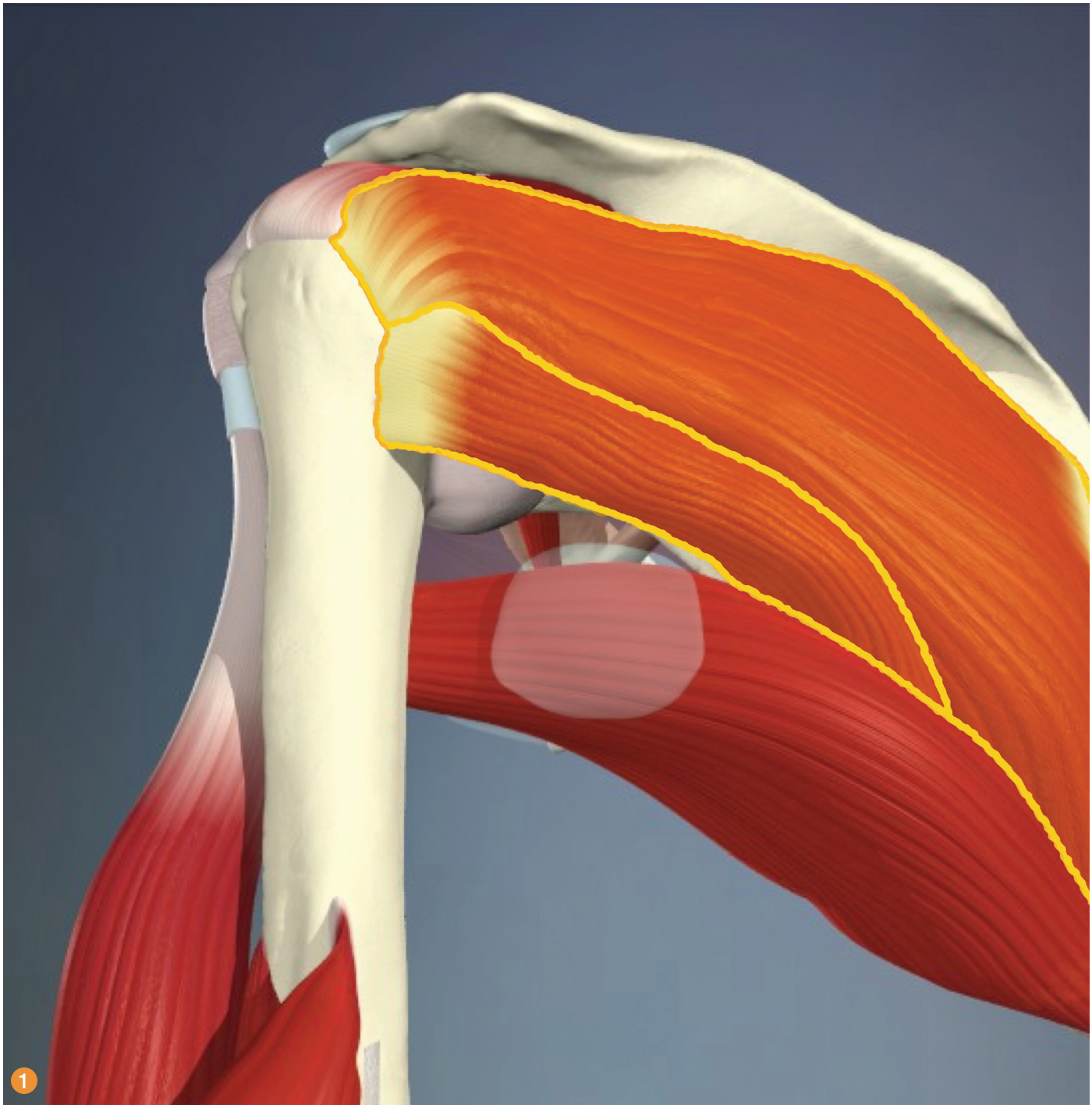
BY TIL LUCHAU



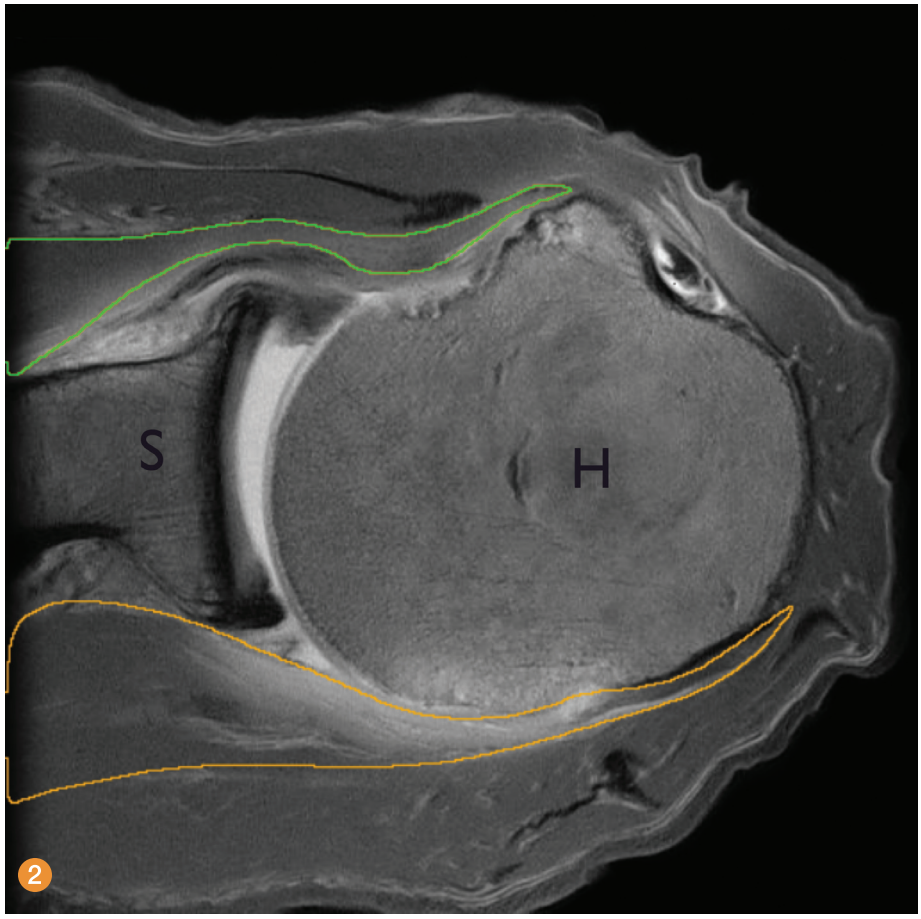
The posterior aspect of the rotator cuff includes the infraspinatus and teres minor muscles (in orange). Together with the other muscles of the rotator cuff, these structures play key roles in glenohumeral joint mobility and balance. The circular subtendinous bursa of the teres major is faintly visible in this view and can be tender when worked. *Image courtesy of Primal Pictures. Used with permission.*

THE ROTATOR CUFF

Frozen Shoulder, Part II

In this article, we will continue the discussion of ways to alleviate movement restrictions of the rotator cuff and glenohumeral joint (GHJ),[1] using techniques from the Advanced Myofascial Techniques seminar series.

In the first part of this article (November/December 2009, page 118), we looked at ways to assess and restore the important movement of inferior glide of the humerus (in a healthy shoulder, the humerus drops inferiorly as it begins abduction). The two new techniques described in this article will give you more ways to regain lost inferior humeral glide. Additionally, since these techniques work with front/back balance of key structures around the GHJ, they are also indicated when you see a tendency toward either internal or external arm rotation at the GHJ.[2]



Axial (horizontal) cross section MRI of the head of the humerus and rotator cuff. The subscapularis (outlined in green) on the anterior side of the shoulder, and the infraspinatus (orange) on the posterior side, work together to coordinate rotation of the humerus in relation to the scapula. *Original image courtesy of Primal Pictures. Used with permission.*

POSTERIOR ROTATOR CUFF TECHNIQUE

Working with the posterior side of the rotator cuff is indicated when you see a tendency toward external rotation of the arm, or when arm abduction is limited (as in Image 6, page 113). Position your client so that his or her arm hangs off

the side of your table, with the table edge positioned directly below (anterior to) the glenohumeral joint. In this way, gravity and the edge of the table help open up the back side of the rotator cuff. With some tables, you will need to add a folded towel or other additional padding over the table's edge so that it is comfortable for your client.

With the arm hanging, work laterally on the posterior side of the scapula with the knuckles of your soft, open fist (Image 3). Feel for release in the infraspinatus, teres major and minor, posterior deltoid, and their fascias. If you observed restricted abduction or reduced inferior glenohumeral glide (as discussed in our last article), be especially sure to work the supraspinatus muscle along the superior margin of the scapula—it plays an important role in these motions.

Your client can assist the release by gently swiveling his or her arm (active rotation of the humerus), while continuing to let the arm hang. Other movement variations include slow, active glenohumeral circumduction, as well as gentle reaching overhead (glenohumeral flexion). When using these movements, you can change the direction of your pressure from lateral to medial, so as to encourage the soft tissue of the posterior scapula to release medially and inferiorly (away from the direction of reaching).

All active movements should be slow and gentle enough that the muscle's contraction doesn't push you out of the place you're working. Using just the initiation of hand or arm movement—the first few millimeters—can make this clearer for your client. Ask your client to begin the movements very gradually, reaching with just the hand, and then just the hand and forearm, before engaging the shoulder muscles at all.

On clients who are larger than you are, you may find advantage in gently using your forearm (not the point of the elbow) in place of the soft fist. Work slowly and sensitively here—the axillary and suprascapular nerves are in this area, as is a bursa between the tendons of the triceps' long head and the teres major (Image 1); all of these structures can be quite tender and the forearm is a powerful tool.

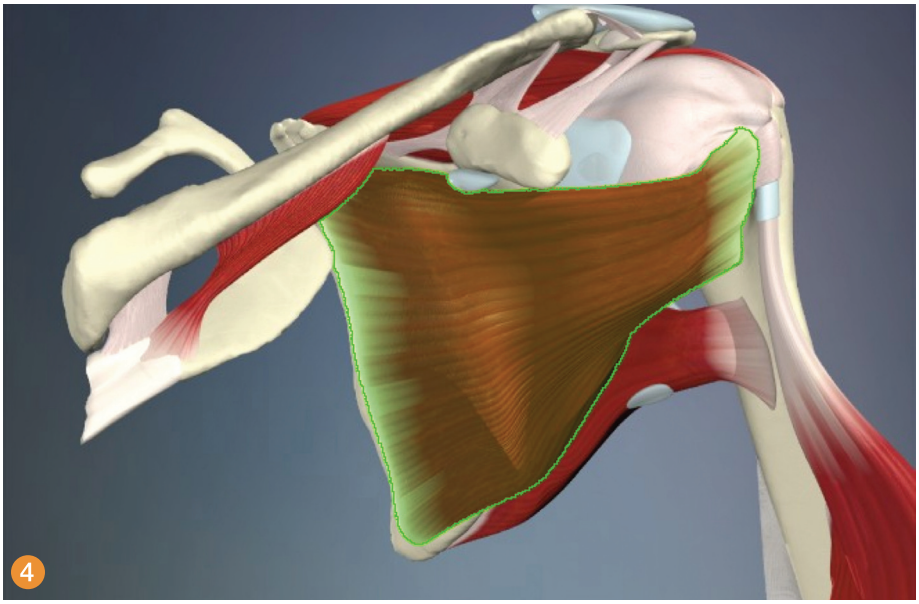
Posterior Rotator Cuff Technique. With your client's arm hanging, use the knuckles of a soft fist or other tool to release any restrictions between humerus and scapula. Active client movements can include arm rotation, extension, or reaching overhead.

SUBSCAPULARIS TECHNIQUE

Once you have thoroughly addressed the posterior side of the rotator cuff with the previous technique, you'll want to balance the shoulder girdle by working the front side of the GHJ, too. The subscapularis, being the deepest muscle on the anterior side of the GHJ (Image 4), is a good place to start, especially since it helps centralize the humeral head in the glenohumeral fossa by helping keep the humerus from riding up in the glenohumeral fossa during arm motion—in other words, it plays an important role in coordinating glenohumeral glide.

There are several ways to work the subscapularis, but one of my favorites is pictured in Image 5. Sit or kneel on the table just behind your side-lying client. Cradle his or her arm in the crook of your elbow, and with this same arm, lay your hand palm down on the ribs of the axillary space. Although this will be your working hand, it stays relatively soft and relaxed, using no more effort or stiffness than necessary. With your other hand behind the shoulder, roll the scapula over this working hand, so that the tips and lateral edges of fingers of

YOU CAN SEE THESE TECHNIQUES IN *MASSAGE & BODYWORK'S* DIGITAL EDITION, WHICH FEATURES A VIDEO CLIP FROM ADVANCED-TRAININGS.COM'S ADVANCED MYOFASCIAL TECHNIQUES FOR THE ARM, WRIST, AND SHOULDER GIRDLE SEMINAR AND DVD SET. THE LINK IS AVAILABLE AT BOTH MASSAGEANDBODYWORK.COM AND ABMP.COM.



Lying on the anterior side of the scapula, the subscapularis (in green) is sandwiched between the shoulder blade and the rib cage, forming much of the posterior wall of the axillary space. *Image courtesy of Primal Pictures. Used with permission.*

In the Subscapularis Technique, cradle your client's arm and shoulder complex from front and back. Use your posterior hand to "feed" the scapula over the fingers of your anterior hand, which is then in position to delicately work the subscapularis with your fingertips, while your client plays with gentle arm abduction and rotation.

your anterior, working hand can feel the subscapularis on the anterior side of the scapula. The skin, lymph structures, and nerves of the axillary region are particularly delicate, so don't poke, chisel, or force your fingers in; wait for your client's breath and relaxation to open the space between the scapula and the rib cage to allow you to reach the anterior side of the scapula.

Once you've arrived at the scapula, you can ask your client to do slight movements of arm abduction or rotation. The muscle activation will allow you to feel the subscapularis and be even more specific with your work. However, don't ask for so much movement that the scapula clamps back down on the rib cage. Encourage your client to let the subscapular space be as easy and open as possible, even when performing the active movements of the arm. Work as much of the front side of the scapula as you can comfortably reach, as the subscapularis is a large muscle, covering the entire scapula

Is the ordering of these two techniques important? Probably the most common shoulder pattern is a tendency toward forward-rounding of the shoulders. Key elements of this pattern are scapular protraction on the rib cage, together with internal glenohumeral rotation. Because of this, most people will feel greater shoulder balance and more ease if you end the work with an anterior release by working the subscapularis after working the posterior rotator cuff. You can switch the order of these techniques, of course, if you see the opposite pattern of dominant shoulder retraction and external humeral rotation.

AN EXAMPLE

The before-and-after photos of the client in Images 6 and 7 show significant range-of-motion increase after two sessions utilizing the myofascial techniques described in Parts I and II of this article. The client underwent

rotator cuff surgery for pain and restriction in his left shoulder (probably related to weight lifting), about two years before coming for myofascial work. His range-of-motion limitation and pain had continued after surgery, but improved substantially after receiving myofascial work. His range of motion continued to improve after the photos were taken, and several years later, he is quite active physically and pain-free, and continues to come to me for less frequent maintenance sessions.

While, of course, not all clients respond as dramatically as this example, this amount of improvement is not unusual. You'll find that the concepts and techniques described in these two articles will benefit a large number of your clients who experience shoulder restriction and pain. **m&b**

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Notes

1. *While limited motion at the glenohumeral joint is the focus of these two articles, the term* frozen shoulder *is most often used in physical medicine to refer to the specific inflammatory condition of adhesive capsulitis (see Part I for references). Informally, you'll hear* frozen shoulder *used by practitioners and non-practitioners alike to describe any restriction that substantially limits arm abduction. Because of its lack of specificity (and the less-than-optimal metaphorical connotations of being frozen), we tend to not use the term in our Advanced Myofascial trainings.*
2. *Although not the focus of this article, I should describe what a dominance of internal or external arm rotation looks like. In the case of more internal rotation at the GHJ, which is often associated with the rounded posture of shoulder protraction, the elbow of the hanging arm points out to the side, and the arm will resist passive external humeral rotation. In contrast, chronic external rotation of the humerus is most often associated with the pulled-back posture of shoulder retraction, and the elbow points more posteriorly, or even slightly medially. You'll see clients who have more internal humeral rotation on one side, and more external rotation on the other side, especially when there is a larger asymmetrical pattern, such as a spinal scoliosis.*

A client with rotator cuff pain and restriction shows improved abduction as a result of increased inferior glide of the humerus. These photos were taken before (Image 6) and after (Image 7) two sessions of myofascial work, employing the techniques described here.