



Methods For correcting

BY ROBERT K. KING

Upper Quarter Strain Patterns

Muscular imbalance,
biomechanical strain
and attitudinal rigidity
all interfere with effective bodywork.
This article offers solutions
that can energize your practice
and prolong your career.

PHOTO BY: MARC HARRIS

SOME 30 YEARS AGO, I ENTERED THE MASSAGE THERAPY FIELD WITH AN ATHLETIC BACKGROUND IN COMPETITIVE WEIGHT LIFTING AND AMATEUR BOXING.

I thought my experience in these two sports would provide me with the necessary strength, power and upper body development to ensure a pain-free career. Wow, was I wrong!

Within six months of full-time practice, I developed thumb tendinitis, rotator cuff strain and persistent upper back spasms. I found it baffling and ironic that my clients could feel so much better, while I was experiencing relentless myofascial strain and pain. What went wrong?

Like many new massage therapists entering the field, my kinesiological knowledge and awareness were lacking, especially in reference to my massage therapy delivery system. While I had good reflexes and exceptional strength, having won several state and regional weight-lifting contests, I was unprepared for the unique functional demands essential for efficient bodywork. Indeed, just the opposite was occurring. My table was too high, my arms consistently bent for strength, and I had chronic medial rotation of the humerus, coupled with the use of my arms and shoulders as the primary source of leverage. The insidious onset of cumulative trauma disorder had begun. Patterns of adaptive compensation and mid-thoracic dysfunction would soon follow. Yes, my feelings of youthful invincibility quickly vanished.

Fast-forwarding my career by three decades, I am now able to identify and correct functional disturbances in my clinical practice. I have found certain methods to be both personally and clinically successful tools for a long-lasting and pain-free massage therapy career. The purpose of this article is to share with you some of these simple, but effective, self-care measures for alleviating upper body strain disorders. Keep in mind that this is only one aspect of achieving overall functional efficiency. It is, however, a valuable first step.



Receiving clinically specific myofascial bodywork is an essential component of a personal wellness program.

I have conducted continuing education programs on a national basis for the past 20 years. It has become apparent to me that many therapists are not utilizing optimal body mechanics. Many schools and training programs do not provide adequate education in biomechanical principles and self-care measures. As a result, there are numerous overuse injuries, repetitive strain disorders and patterns of upper quarter muscular imbalance that impact professionals in our field. They can be classified as occupation-related injuries. Increasingly, they are the causal factors for bodyworkers leaving the profession.

Not long ago, I conducted an in-service training at a high-profile destination spa only to find that 30 percent of the entire bodywork staff was either on disability, a reduced schedule or could no longer perform specific modalities. I don't think it is an exaggeration to assert that there is an entire generation of wounded healers practicing massage therapy. Individual business owners, school directors, continuing education presenters and the individual bodyworker all need to take responsibility for improving this situation. It begins with education, awareness and personal responsibility.

The entire hands-on portion of my advanced seminars is sometimes spent helping massage therapists unload their upper body musculature from kyphotic strain, cervicocranial hyperlordosis and overuse tendencies at the shoulder. A leverage-based lunge coming from their legs can be sometimes a brand new experience for therapists. Many are habituated in using the arms and shoulders for leverage and depth, but working hard does not translate into working deep. Apparently this is one of our profession's closely guarded secrets.

Clinical success and longevity within a massage therapy career depend on several factors:

- A solid anatomical foundation;
- Developed palpatory skills;
- Clinical reasoning skills;
- An efficient, pain-free delivery system.



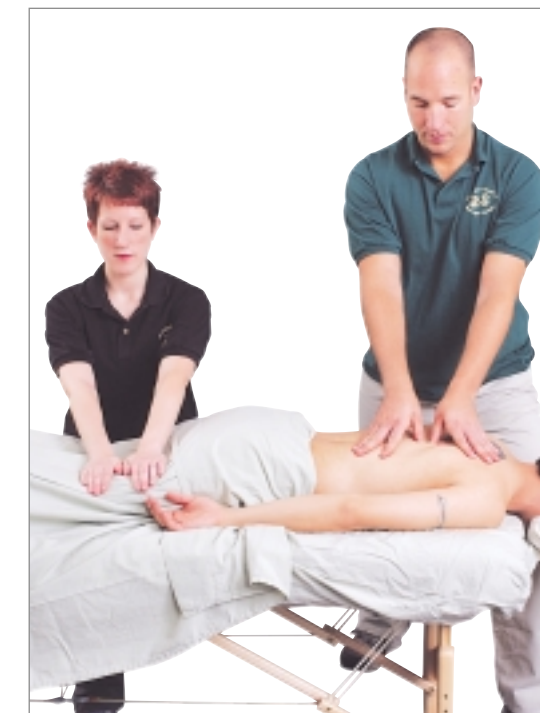
Biomechanical strain patterns in the upper quarter become apparent when the shoulders and arms are used as the primary source for tissue engagement. Combinations of elevation, protraction and medial rotation can lead to repetitive strain injury.

Achieving this efficient pain-free delivery system is a challenging and creative process. By correcting these stressful movement patterns in the upper back and shoulder muscles, we can positively impact therapeutic outcomes, personal self-care and our longevity in the profession.

It sounds easy enough, but where to begin? There are yoga, tai chi, Pilates, the Alexander Technique, martial arts, McKenzie exercises, grounding, centering, focusing, magnets and meditation. As useful as these methods probably are, I would like to propose some pragmatic and effective wellness strategies that you can begin practicing today.

I. Attitudinal Change May Be The First Step

The process of warming muscles; exploring tissue; applying specific hand, thumb, knuckle or elbow techniques; blending and combining strokes; and tapering off involves a delivery system that ought to reflect principles of optimal functioning. The quality of touch ought to mirror the resolution of myofascial pain. The application of our techniques ought to avoid the very conditions that so commonly undermine our clients' health: repetitive strain, dysfunctional biomechanics, muscle imbalance and injurious movement compensations. In other words, we can't expect our clients' restricted muscles and fascia to relax if we are straining and provoking tissue with exertional upper body force. Instead, we seek congruence between client outcomes and the body mechanics of our delivery system.



Regardless of your height or physical strength, a lunge-based stance generates tissue engagement coming from the pelvis and legs while unloading the upper quarter musculature.

Have you ever been on the receiving end of a massage session that was applied with upper body strain, rigid poking fingers, and a muscular effort that was clearly stressful and fatiguing for the massage therapist? This is not a satisfying therapeutic experience! Clients initiate reactive clenching, a withdrawal reflex and breath holding when overwhelmed by indiscriminate pressure. Bruising of tissue then occurs when a rigid sequence of techniques is employed with little regard for the client's ability to accommodate the style or the pressure of a bodywork sequence. Escalating stress becomes the response of the bodyworker and the client on both a physical and an attitudinal level.

Lacking mindfulness, indiscriminate techniques might best be described as "bodywork fascism." They demonstrate allegiance to the "system" or "formula" regardless of the individual needs of the client. Unfortunately, the client now becomes a means to the end of "following the routine." When I have had the misfortune of receiving this type of bodywork fundamentalism, it is often from well-meaning therapists who have recently taken a continuing education workshop, usually in deep tissue, neuromuscular or one of the Asian therapies. Stressful, rigid fingers and hands insist upon the "right technique," with little regard to warming tissue or the principles of progression for engaging myofascial layers. Sometimes the agenda-driven therapist will assume you don't like or can't take the deep tissue or specific work they are so invested in. The reality is that

The Psychology Of Strain And Effort

- Techniques are delivered with strength and muscular effort.
- Upper body focused—my arm as a battering ram.
- Fragmented stressful movements fighting against gravity.
- Hand positions and techniques that strain neck and shoulder muscles.
- A “no pain, no gain” philosophy generating ongoing strain.
- I relieve client discomfort by increasing personal effort.
- Rigid allegiance to a conceptual formula: Bodywork Fascism.
- Limited endurance leading to energetic functional exhaustion.
- Intense focus on parts that need treatment... “work it out.”
- Straining to overcome tissue resistance.

Principles Of Elegant Bodywork

- Techniques are integrated with a sense of openness and ease.
- My pelvis, legs and feet are the source of grounding and power.
- My body movements reflect working with gravity.
- My body assumes lower quarter stability prior to specific hand techniques.
- A coordinated bodywork dance based on mutually experienced levels of comfort.
- Somatic awareness and conscious breathing.
- Willingness to explore and wander around; palpatory literacy.
- Energized and intuitive bodywork.
- Focus on whole body patterns and segmental relationships.
- An elegant delivery system based on leaning, leverage and lunging for optimal impact.

nobody wants to be pressed, poked or prodded with a rigid, unyielding hand, overly flexed arms, elevated shoulders, facial grimacing and the occasional grunt from overworking the upper body musculature.

The charts at left outline contrasting philosophies and belief systems that profoundly impact our style of bodywork. The first list portrays the stressful beliefs and psychological disposition lurking behind functional strain patterns. What we find here is a “hardening of the categories.” This mindset is “working deep equals working hard equals upper body strain equals overall personal exhaustion.” And somehow, this helps the client get better?

When fingers, hands, arms and shoulders are the major power source for tissue engagement, it compromises functional integrity, often leading to the classic cumulative trauma disorder. Perhaps even more distressing is that it is nonreflective and nonresponsive to legitimate client needs. I wonder if we all haven’t gone through this stage at one time or another in our careers—where determination overcomes discernment. We want to follow an effective therapeutic protocol, but it becomes one-sided and one-dimensional. Fortunately, we are able to step back and realize the unnecessary emotional and biomechanical stress that can undermine the therapeutic encounter. Eventually, we come to realize that healing does not occur in a formula.

Let’s reflect on the chart “Principles Of Elegant Bodywork” (directly left). Are these just poetic words suggesting flow, energetics and some sort of tableside dance? I think legions of wounded bodyworkers can attest that the old paradigm is not working. A vital and multidimensional transformation needs to occur.

It begins with self-awareness. It relies on the pelvic and lower extremity muscles for power and the upper body for precision. By unloading the upper quarter musculature, we allow for a more conscious and comfortable delivery system that eliminates the perpetuating factor of dysfunctional biomechanics. We focus on self-awareness and conscious reflection of client needs. We become a work in progress, responsive to client feedback. Relaxed communication replaces strict adherence to a formula. This shift is both forgiving and energizing.

This paradigm change is the first step in the lessening of upper quarter strain patterns that perpetuate myofascial

imbalances in the massage therapist. By starting with conscious reflection, we can progress to biomechanical insight, self-correction and self-care strategies. Now we can deepen the therapeutic encounter with intimacy and a nourishing spirit.

II. Classic Muscular Imbalances In The Upper Quarter

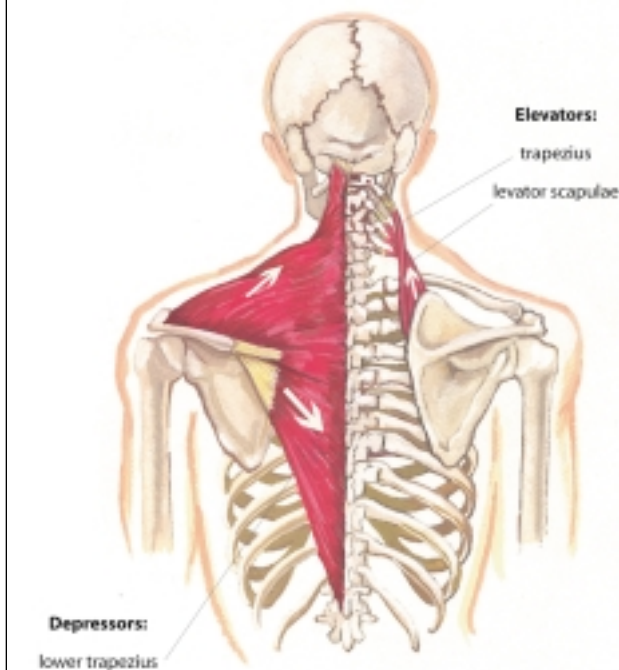
Moving into the biomechanical realm, we find that stressful, fragmented bodywork usually involves a classic strain pattern between three upper body muscle groups. (See the illustrations at right, and on page 76.) This pattern is sometimes referred to as the upper crossed syndrome, showing a crisscrossed pattern of myofascial imbalance between key postural and phasic muscles.

The first imbalance is between the shoulder elevators and depressors. This is an easy one. Scapular elevation is a common characteristic of deep pressure. Manual therapists all too often experience a tight burning ache in the upper trapezius and levator scapula from a table that is too high or from using the arms and shoulders as the primary power source. In fact, elevation at the scapulocostal joint is probably the most significant overuse pattern in the practicing therapist. Conversely, the lower trapezius as one of the scapular depressors becomes functionally weak and inhibited.

The second upper quarter imbalance pattern is the frequency of shoulder protraction as opposed to retraction. Serratus anterior and pectoralis minor are often overworked, especially with techniques that involve static holding or reaching across the table on a repetitive basis. While the entire trapezius muscle assists in retraction, the middle fibers, because of their line of pull, are ideally suited for this task. The middle trapezius, along with the rhomboids—which also retract the scapula—are commonly painful, fibrosed and adaptively weakened by the frequency of protraction-based techniques.

The third shoulder imbalance in the massage therapist is excessive medial rotation of the humerus. Static, cross-armed compressions are probably the most common offenders seen in clinical settings. Medial rotation overuse stresses the subscapularis, pectoralis major, anterior deltoid, the teres major and even certain fibers of latissimus dorsi. Weakened lateral rotators of the shoulder include teres

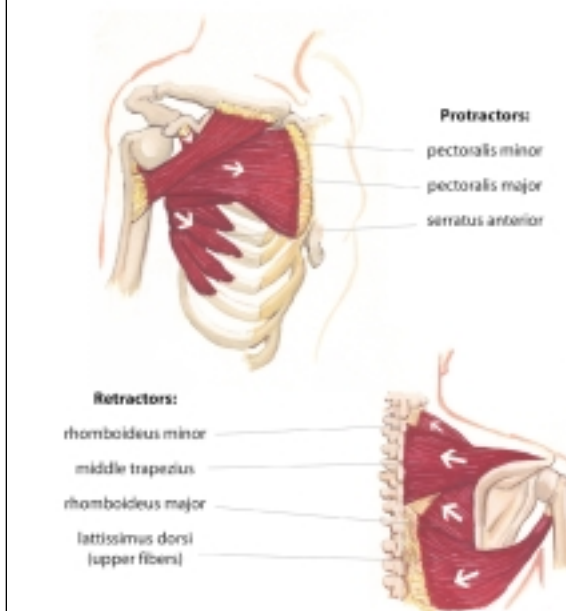
1. Scapular Elevators And Depressors



ANATOMICAL ARTWORK BY SARA CORKERY

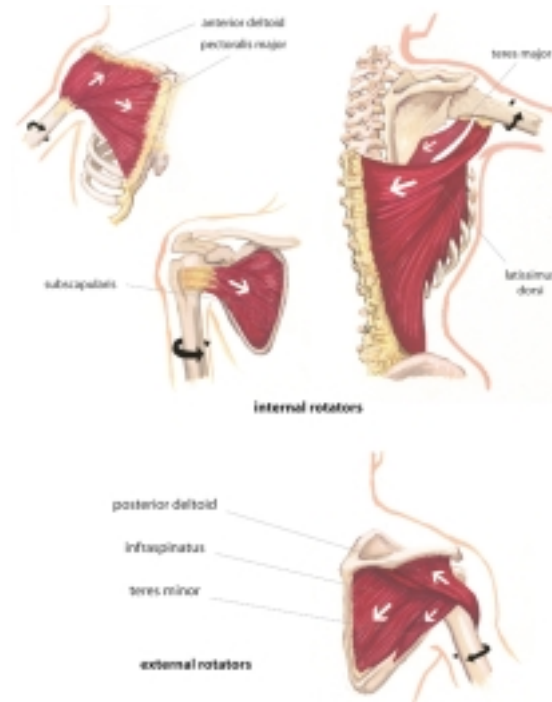
Hypertonicity in the upper trapezius and levator scapula is a common problem for many practitioners. The lower trapezius, which functions as a scapular depressor, is often functionally inhibited.

2. Scapular Protractors And Retractors



Shoulder and arm strain is perpetuated when scapular protractors are overworked at the expense of the scapular retractors. The middle trapezius and rhomboids, in particular, are functionally stressed by this imbalance.

3. Internal And External Rotators Of The Humerus



Static holding techniques such as cross-armed compressions and fascial lengthening contribute to muscle imbalance between internal and external rotators of the humerus. Massage therapists often require myofascial release of the internal rotators, particularly subscapularis, with subsequent strengthening of the external rotators.

minor, infraspinatus and the posterior deltoid. We begin to notice our protracted arms hanging in medial rotation long after our last client of the day.

With increasing frequency, body therapists are finding that these three strain patterns interfere with functional efficiency and produce a gripping ache in the arms, neck and shoulders. This can be enormously discouraging, and not just for the new massage therapist. It also sets the pathomechanical stage for rotator cuff injury, thoracic outlet syndromes, cervical disk compression and overuse tendon injuries at the elbow and wrist. I often meet massage therapists at workshops who attend not so much to learn new approaches for their clients, but to help themselves eliminate myofascial pain, functional strain and overuse injuries in their own bodies. Healing begins on the home front.

III. The Need For Self-Care Strategies

Our approach to self-care and optimal performance needs to be reflective, corrective and strategic. We need to become

Tips For Correcting Upper Quarter Strain Patterns

- Make a video recording of your entire massage session. Analyze what techniques are stressful and functionally awkward for you. This can be a revealing first step toward meaningful self-correction.
- Put an ordinary bathroom scale on your massage table. (See page 79.) Employ palm compression or try using your elbow. Initiate 20 pounds of pressure. Then try to triple your engagement up to 60 pounds without any further upper body effort or contraction. This is a valuable proprioceptive exercise for utilizing a leverage-based lunge without contracting the arms and shoulders as the primary power source.
- While providing a massage, track your feet in the direction of force. Just like a quarterback or a baseball pitcher, you want an efficient orientation of body segments allowing for optimal hands-on efficiency.
- Receive clinically specific deep tissue or neuromuscular bodywork targeting your individual myofascial areas of tension and strain. Commit to an ongoing program with specific clinical outcomes.
- Barbara Frye's new book, *Body Mechanics for Manual Therapists: A Functional Approach to Self-care and Injury Prevention*, is an excellent resource for the manual therapist (See "Suggested Reading" list, page 79.) The author presents self-observation exercises, injury prevention tools and kinesiological insight in a user-friendly format.

bodywork athletes so we can identify functional strain patterns, substitute less stressful techniques and begin a program of self-care and functional restoration. Peak performance on the athletic field or in the treatment room follows the same principles. A strategic program would include the release or lengthening of concentrically shortened myofascial structures and the toning of their functionally stressed antagonists. Our goals are the reduction of work-related pain and the achievement of balance and equilibrium in the upper quarter. We need to start with a simple training program. Review the sidebar "Tips for Correcting Upper Quarter Strain Patterns" (above) to begin your self-care strategy.

IV. Self-Stabilization Techniques

On the pages that follow, you will find three self-stabilization techniques that hundreds of bodyworkers are already utilizing with excellent results. (Feel free to photocopy them and share them with your clients, in addition to referring to them yourself.)

The Brugger Relief Position is a basic, very important self-stabilization technique. It reduces kyphotic strain, forward head posture and the chronic medial rotation of the humerus so prevalent among manual therapists. It provides proprioceptive input for postural correction. It is ideal, not only for bodyworkers, but for office workers who fall into chin poking, "banana back" postures. Follow the instructions carefully and you will notice an overall postural improvement within a few weeks of practice.

The second self-stabilization technique for correcting upper quarter imbalance and strain is known as Wall Angels. This exercise targets the three functionally strained muscle groups—the scapular depressors, retractors and the lateral rotators of the humerus. Slow, conscious control of the exercise is an ideal one-minute self-stabilization technique between clients. It helps to reset the scapular stabilizers and gently stretches the pectorals. It synchronizes nicely with the Brugger Relief Position by allowing for improved intercostal expansion during inspiration.

The third and most advanced of our stabilization techniques is the Power Band Pulldown. An exercise band, sometimes called power bands or therabands, surgical tubing or any

rubber-based exercise product will do. By slowly and consciously initiating a "down and out" movement pulling the band down to the base of the skull, you stimulate external rotation, retraction and scapular depression. Coactivation of these muscle groups reciprocally inhibits their hypertonic antagonists. This movement closely resembles the biangular lat machine often seen in health clubs. I realize there are differing biomechanical opinions regarding pulldowns behind the head, but I think you will find this exercise both safe and effective when performed carefully. Please don't practice any movements that hurt or require strength beyond your current fitness level.

When performed on a regular basis—up to 100 per day or 20 repetitions between each client—you will notice significant improvement in upper quarter balance and equilibrium. The external rotators and retractors, especially the rhomboids, show improved functional competency within a few days. As you progress and grow stronger, you may wish to purchase more challenging bands to maximize your clinical outcomes.

V. Efficiency And Elegance

When movement becomes a skill, a science and an art form, the practitioner has a better chance of avoiding injury, maximizing

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The Brugger Relief Position enhances postural alignment and conscious three-dimensional breathing. This variation more specifically enhances external rotation of the humerus and scapular depression.

Exercise 1. The Brugger Relief Position*

Altered biomechanics can strain the joints, disks and ligaments of your spine. Muscles become overworked acting as a "check-rein" against gravity. This simple exercise developed by a European neurologist has provided relief for individuals with upper quarter strain patterns. Practiced regularly, it provides proprioceptive input into supporting a posture of balance and equilibrium.

1. Sit or perch at the edge of your table or chair.
2. Externally rotate and abduct the legs slightly.
3. Roll your pelvis slightly forward, activating a supportive lordotic curve.
4. Tuck your chin and extend your posterior neck muscles.
5. Rotate your arms outward so that your palms face forward. Separate your fingers to allow the thumbs to point backward.
6. Take several slow, deep three-dimensional breaths. Feel the belly soften and the rib cage expand.



An excellent variation is to gently bend the elbows, externally rotate the humerus at the shoulder and then contract your shoulders downward for maximum stretch.

*We invite our readers to photocopy the exercises here and on the next page, and share them with your clients.



Wall Angels is both an evaluative and corrective movement. Keeping the elbows and wrists close to the wall while slowly pulling the elbows toward the waistline targets the typical muscular imbalances found among massage therapists.

Exercise 2. Wall Angels

This movement reinforces retraction of the shoulder and neck muscles, stretching the pectorals and the upper trapezius and activating the scapular stabilizers. Practice the movement slowly and consciously, performing up to 25 repetitions several times per day.

1. Stand six to eight inches from the wall. Tuck your chin and rotate your pelvis back against the wall. Keep the knees slightly bent.
2. Stand with your elbows raised to shoulder level and your wrists directly above the elbows, fingers extended.
3. Inhale. Raise your elbows and wrists upward trying to maintain contact with the wall. As you exhale, lower your elbows toward the sides of the waistline. Use muscular contractions to keep your elbows and wrists close to the wall. Move to the motion barrier. Pause and repeat.
4. Perform each repetition slowly. Consciously practice shoulder external rotation, retraction and depression to help stabilize upper quarter structures.



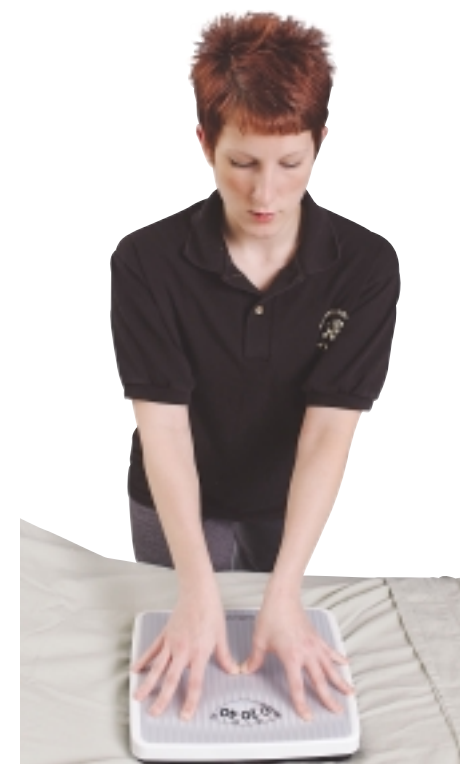
Scapular retraction and depression are consciously employed as the power band is pulled outward and downward to the base of the skull. Work slowly and consciously for maximum results.

Exercise 3. Power Band Pulldowns

This exercise is similar to Wall Angels, but with added resistance. Be certain that your wrists and hands have the power band secured in a firm grip. Remember to tuck your chin, but avoid protracting your neck forward. Visualization of the muscles being activated will positively impact your outcomes. Be sure to move slowly, both in the concentric and eccentric phases of the exercise.

1. Stand or sit comfortably maintaining stable alignment.
2. Grasp the band firmly with both hands.
3. Externally rotate and retract your arms and shoulders to the starting position pictured above.
4. Inhale and then pull the band “down and out” to the base of the skull as you exhale. Slowly return to the starting position and repeat.
5. Be sure to activate the shoulder retractors to initiate the movement. Try using a mirror to be certain that your form is optimal.

Performing up to 15 repetitions between clients will powerfully reset your shoulder and upper back musculature.



By placing a scale on your massage table you can begin to practice deeper methods of tissue engagement while consciously relaxing your upper quarter musculature. Doubling or tripling your pressure without increasing upper body contraction is an excellent proprioceptive exercise that will validate your ability to work deep without working hard. On the right, 80 pounds of compressive forearm engagement is achieved when a leverage-based lunge is employed.



therapeutic impact and enjoying career longevity. Finding that elusive, but elegant pathway of connection is a creative and challenging quest. While optimal body mechanics is a combination of many different factors, the simple suggestions here are vital first steps toward a mindset and a quality of movement that is consciously evolved. You will soon discover that working deep is not working hard. Energy can replace exhaustion, and efficiency soon leads to elegance. It's time to get started! 📖

Robert K. King has authored manuals, books, videos, curricula and dozens of clinical articles in a massage therapy career spanning more than three decades. He is the founder and past president of the Chicago School of Massage Therapy, where he is a senior faculty member and maintains a clinical practice. King is a national education consultant for Cortiva Education, and conducts advanced myofascial training seminars throughout the country. He is on the editorial advisory board of the *Journal of Bodywork and Movement Therapies*. In 2004, he received the Distinguished Service Award from the Massage Therapy Foundation for visionary leadership. He can be reached at: Bob@csmt.com.

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Suggested Reading

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