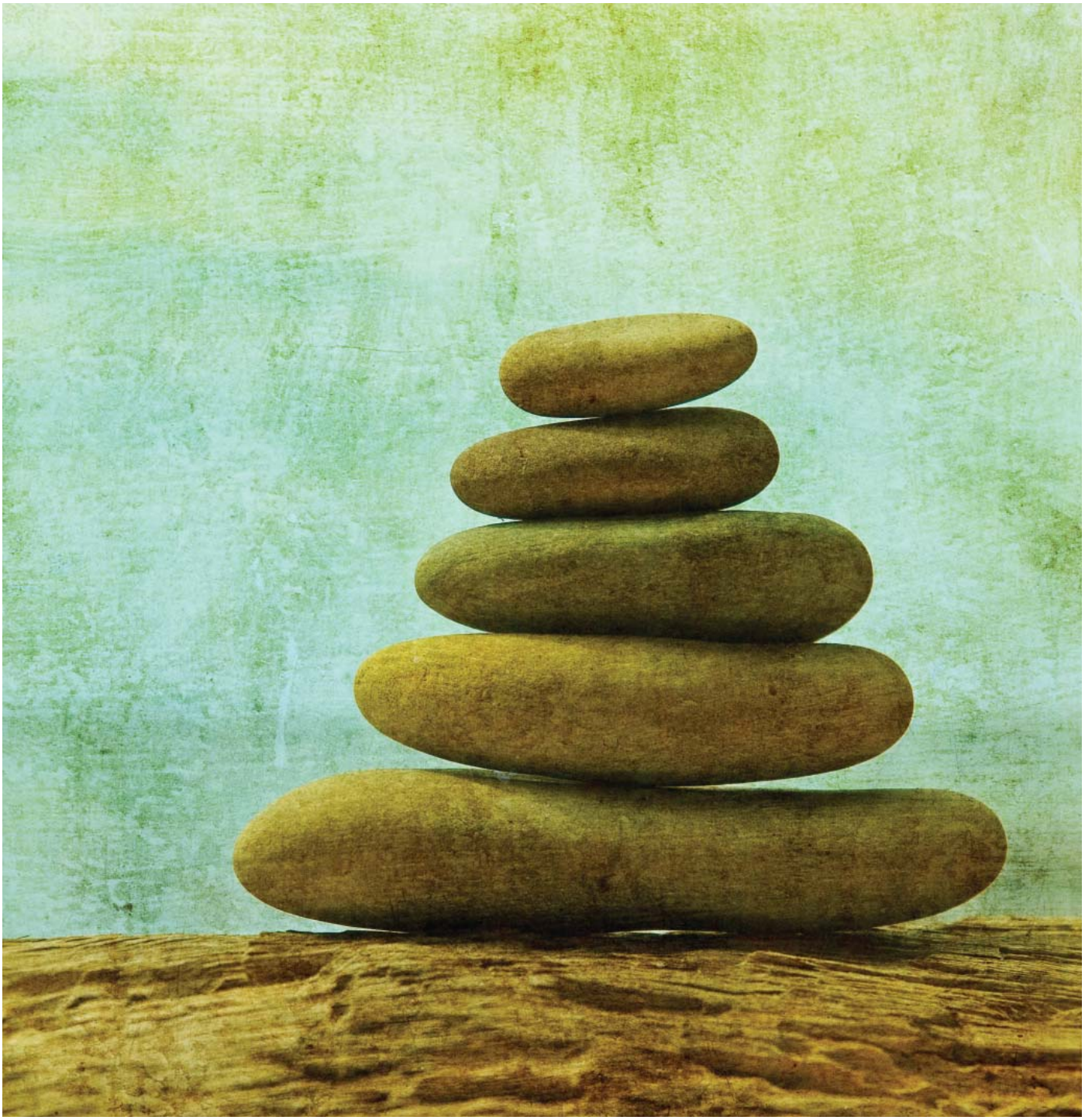
table lessons

BY DOUGLAS NELSON



EDITOR'S NOTE: IN MASSAGE SESSIONS, THERE ARE OFTEN EMBEDDED LESSONS THAT CAN TEACH US MUCH ABOUT THE BODY AND THE IMPORTANCE OF A DEEP MODEL OF PHYSIOLOGICAL UNDERSTANDING. IN THIS COLUMN, DOUGLAS NELSON SHARES SOME OF HIS INSIGHTS INTO SOMATIC PRINCIPLES THAT AFFECT SOFT-TISSUE THERAPY.

"That is very strange. I don't understand why I can't do that."

From across the room, I could hear the concern in her voice. I was teaching a seminar about the upper extremity and everyone was working in pairs. As I walked toward her, I could see the confusion in her face. Her partner therapist also looked perplexed.

The instructions I had given were very simple. I asked the class to measure the capability for each person to perform humeral abduction, which should be about 165°. What these two therapists had noticed was striking. If the young lady who was the "client" (call her "M") lifted one arm in abduction, her maximum ability was 90°. This was also true on the other arm. While quite limited, this may not be that unusual. What was remarkable was that for some reason, she thought to try raising both arms at once, which resulted in flawless abduction on both sides to about 165°.

I must admit that I hope my face did not belie my initial lack of a plausible explanation. At first, this made no sense. Her arms clearly were capable of full abduction, so no intra-joint pathology could be present. How could it be a muscular issue if the muscles were capable of creating and allowing the motion, albeit only when both sides contracted at once? What was it about bilateral contraction that made this work properly?

It is at these moments when all the time spent studying anatomy pays off. Watching her abduct her arms, the reality of the situation hit me. I tried a little experiment to confirm my hypothesis.

"Before you abduct your left arm, I want you to push your right arm against me as though you were trying to abduct it," I said.

As I held her right arm tightly to her body while she pushed against me, she easily lifted her left arm up to 165°. She lifted her left arm again and again into full abduction. To make the point, I did the same thing to her other side. If I resisted her abduction on the left, she could easily raise her right arm into full abduction.

THE MYSTERY UNRAVELS

There is a very satisfying point in any mystery when the picture begins to form and previously unrelated details suddenly make sense. "Let me show you something that explains your dilemma, but will also teach you a very important lesson about functional anatomy," I said.

I asked her partner therapist to hold her own right arm at 90° of abduction. Firmly, I pressed into her arm downward, challenging her abductors. I placed M's hand on the midscapular area and asked her to palpate where she felt contraction. M said she felt very strong contraction on the left side of her friend's back along the spinal erectors and scapular stabilizers. This makes perfect sense; when you place weight out on the lever arm, something must contract to stabilize that weight. When you pick up a suitcase with your right arm, the left spinal erectors massively contract to stabilize the action. In M, this was not happening. The stabilizers, for whatever reason, were not firing. Raising both arms together created its own stabilization, activating both sides at once, fixing the problem.

To demonstrate a correction, I treated M's left scapular and spinal stabilizers with a rather vigorous up-regulation technique. Immediately following, she was able to raise her right arm into full abduction. Doing the same treatment on the right side allowed her to raise her left arm into full abduction. She smiled and shook her head in disbelief.

A STABLE BASE

The lesson here is that any muscle contraction can do its job only if there is a stable base from which to operate. We have been trained to think of agonist and antagonist relationships only. For agonists to contract and antagonists to lengthen, all this must happen in a stable environment. If that base is not stable, the brain will shut down the muscle contraction to prevent injury.

Muscle shortness/tightness is not the only reason for lack of range of motion. The agonist can be inhibited/weak, the antagonist can be too short, or a stabilizer can be inhibited. All of these will lead to improper range of motion. Mobility and stability are forever linked. Probably, the memory of humeral abduction and stability will also be forever linked in M's mind! **m&b**

Douglas Nelson is the founder and principle instructor for Precision Neuromuscular Therapy Seminars and president of the 16-therapist clinic BodyWork Associates in Champaign, Illinois. His clinic, seminars, and research endeavors explore the science behind this work. Visit www.nmtmidwest.com or e-mail him at doug@nmtmidwest.com.