

## **A New Way to Strengthen the Core and Relieve Low Back Pain**

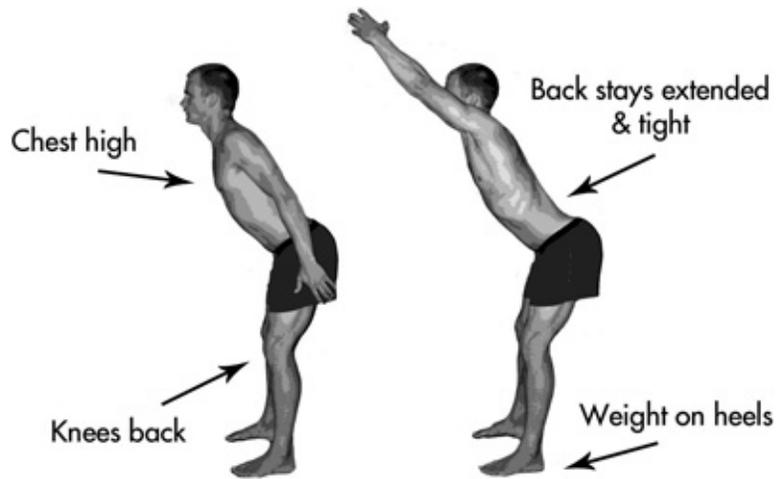
By Marc Heller, DC

The very first time a yoga teacher told me to lean forward against a wall to do a modified down dog (wall dog), I was petrified. My lower back, my discs, do not like sustained flexion. The yoga teacher showed me that the goal was to lengthen the spine and keep it in neutral. Once I got over my fear, the modified down dog became a mainstay of my disc exercise routines.

I am reminded of this because foundation training uses a "braced spine" position as a way to strengthen and tone the back extensors, in concert with activating the whole posterior chain. Eric Goodman, the chiropractor / trainer who developed this routine, defines the core as any muscle with a direct connection to the pelvis, from below as well as from above. He emphasizes doing four times as much back work as front work. (How many patients hurt themselves doing Pilates, which emphasizes flexion and the abs?)

When I first saw these exercises, I was a bit skeptical. I have a broad variety of exercises I teach my patients based on symptoms and the results of functional tests. Could a single exercise system work for multiple low back problems?

After using it and teaching my patients this model for a couple of months, I am convinced this approach is powerful and effective. What do I like?



The first two movements of the "founder" exercise. Reproduced with permission from Eric Goodman, DC.

- *The exercises feel like real exercise.* You feel the burn; you know you are working. Some motor-control exercises from other traditions are just too subtle. This has depth and subtlety, but it is within a context of exercises that are relatively straightforward and physically challenging.
- *The integration of activating the hamstrings, adductors and gluteals, along with the back extensors, is profound.* I have come to appreciate that many of the tight muscles we used to just stretch actually improve in their function much better if we strengthen them, ideally with strengthening in length and/or functional positions. In foundation training, the emphasis is on strengthening the adductors and the hamstrings in a lengthened position.
- *The patient and the doctor/therapist/trainer get immediate feedback.* When you are doing these exercises, you can feel where you are weak. After you do the exercises, your posture and function immediately improve.
- *It is safe.* The emphasis on maintaining a neutral spine keeps the lower back from getting injured.

These exercises are clearly from the yoga tradition. The older style of yoga that I learned 30-40 years ago seemed to emphasize strictly relaxation and stretching. The newer forms of yoga, at least the ones I appreciate, emphasize co-contraction, activating the muscles as you lengthen them. The best yoga, in my opinion, does not just go for extreme positioning at the end range. I don't think you should sacrifice any joints in the name of some theoretical ideal end-range position. Foundation training is clearly in the newer style of yoga tradition.

Here's what one of our colleagues, Daniel Kalish, DC, had to say about these exercises in a conversation with me a short while ago:<sup>1</sup>

"[This training] to me represents modern-day yoga, exercises adapted to our current lifestyle where we sit at computers, drive in cars and predominantly lead sedentary lives ... [The] postures resemble yoga positions and when I first saw the pictures of the exercises I incorrectly assumed these were modified yoga postures and that there was nothing new, just a reinvention of an ancient tradition. Within my first 60 seconds of my [session], I realized how wrong I was. These subtle variations in positioning that form the basis of the work completely alter the dynamics of the exercises and force the body to adapt, to use muscles we leave dormant, strengthening the body in just the areas of weakness that modern life generates.

"As a 30-year practitioner of yoga and a trained chiropractor with a long-standing focus in biomechanics of the spine, I can honestly say that a 15-minute foundation training exercise program will activate and strengthen muscles left completely untouched in a 90- minute yoga workout."

Here are a few quotes from Dr. Goodman himself, the first one regarding the "founder," one of the primary exercises featured in this training system:

"I used to think of the Founder as an exercise for strengthening the body. I now recognize this exercise as the pathway to awakening the otherwise dormant, primitive neural pathways of original human movement. ... It all comes down to even distribution of weight among the muscle chains designed to absorb. If force is dispersed well, individual muscles have an easier job and will feel more supple. The muscles just work better as a team. Always look for the weakest link in the chain (most often the low back stabilizers and glutes), find the shaky spot and hold it."

"What [foundation training does], in the most simplified terms, is strengthen and train the many small muscles of the spine to brace the entire lower spine while the hips pivot. These muscles are usually used incorrectly. They are made for simple stability and not powerful movement ... When you move incorrectly, you are asking these muscles to do a job they are not designed to do. It's like asking a toothpick to do the job of a tree trunk. When these muscles are strong, they have the ability to stabilize the spine while the larger muscles move around the them. If your movement originates in the hips and your large posterior muscles, the muscles surrounding the vertebrae, are no longer being compressed or overworked. All of that tension, all of that compression, all of that friction is distributed to the hips, glute muscles, and hamstrings, instead of being placed on that tiny spine muscle and that vulnerable disc."<sup>2</sup>

Enough talk; let's make it practical. Dr. Goodman has done a wonderful job of sharing this work via free videos [on YouTube](#)<sup>3</sup> and his Web site ([www.foundationtraining.com](http://www.foundationtraining.com)). So, let's do the "founder." I've included pictures of the essential first two movements in this article. The key is to start with a hip hinge. I was surprised to see how few of my patients, even after I had trained them in my previous rehab models, really understood this motion.

From the hip hinge, with the knees unlocked, bring your straight arms behind you with the thumbs pointing outward. Isometrically bring your legs together and keep your weight back on your heels, activating the hamstrings, glutes, and adductors. Now bring the arms forward, keeping the braced spine position as your spine goes forward.

The key is the details. You have to start with the hip hinge; this is a challenge for most lower back patients. Keep the weight back. The legs are active and isometric, pulling together but not pronating the feet. Maintain the lumbar lordosis actively as you brace forward.

This is a brief synopsis. Watch the videos for the full routine and to review other exercises. There is depth here; you are not going to fully get it unless you learn more and just do the exercises yourself. I think you will love this. I think even those of us who are not rehab geeks will find it very useful for a majority of our back pain patients.

### *References*

1. Personal communication; used with permission from Daniel Kalish, DC.
2. Goodman E, Park P. *Foundation: Redefine Your Core, Conquer Back Pain, and Move With Confidence*. Rodale Press, 2011.
3. Goodman E. YouTube video on foundation training.

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