



## BACK TO BASICS

In the clinic, we do a phenomenal job of executing Graston Technique® and corrective exercises for our low back pain patients. Most patients leave feeling better and having hope only to return home or to work where they revisit activities and or postures that irritate their already hypersensitive low back.

Are we decreasing the irritating factors at home and work? Here are some thoughts.

I think most of us could agree that we are sitting ourselves to death. There is a big push for standing work stations, but is standing all day the answer? Most likely no. A better solution may be changing work environments. Callaghan and McGill (2001) suggested that no single, ideal sitting posture exists for any length of time; rather, a variable posture is recommended to minimize the risk of tissue overload. Suggested postures include standing (alternating one foot on a stool), seated with increased hip flexion or seated with rib cage lifted and hinging at the thoracolumbar areas.

What about housework, specifically the dreaded chore of vacuuming? Traditional one arm vacuuming causes twisting with flexion of the spine and an increase of low back pain. One suggestion to offer is to vacuum in the mid line using two hands. My initial thought was, "No

way, this is ridiculous!" Then just a few hours later I saw my 3-year-old daughter digging in the dirt, hip-hinged and hand spade shovel in the mid-line. The pre-programmed baby, with her uninhibited preserved neurodevelopmental patterns, knew the safest position for the spine and the best position to generate force. Why then do we think we must vacuum unilaterally? If this chore is a stressor and not vacuuming isn't an option, changing the way we go about it is a must.



My daughter may have been around 18 months old when she realized if she moved the 36-count case of water she could then stand on it; now her world was completely new. She worked so hard in the hip-hinged (deadlift) position to drag that water. I didn't tell her what position she could be the strongest in. I didn't tell her what position would protect her spine. She innately knew. We need to be patterning the hip-hinge with our patients early in their treatment plan.



Patients who can distinguish lumbar flexion from hip flexion may decrease their pain occurrences. Full flexion causes the interspinous

ligament complex to strain, imposing an anterior shear force on the superior vertebra. Avoiding full flexion not only ensures a lower shear load but also eliminates potential ligament damage.



One final suggestion is walking. Many patients find walking assists in decreasing their pain. Walking needs to be brisk, no sauntering! A slow walk or stroll produces almost a static load of the tissues. Faster walking with arms swinging (from the shoulders) causes cyclic loading of the tissues and can be pain relieving (Callaghan, Patla, and McGill, 1999). Fast walking has been shown to be a positive co-factor in the prevention of and more successful recovery from low back troubles (Nutter 1988).

These are just a few short suggestions of how patients can change their activities of daily living in a list that could be understandably long.

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### References:

Callaghan, J. and McGill, S.M. (2001) Intervertebral disc herniation. Studies on a porcine model exposed to highly repetitive flexion/extension motion with compressive force. *Clinical Biomechanics*, 16(1): 28-37.

Callaghan, J.P., Patla, A.E., and McGill, S.M. (1999) Low back three dimensional joint forces, kinematics and kinetics during walking. *Clinical Biomechanics*, 14: 203-216.

Nutter, P. (1988) Aerobic exercise in the treatment and prevention of low back pain. *State of the Art Review of Occupational Medicine*, 3:137.