

From Our President



Greetings BDI Friends,

It has been long established that poor posture increases the forces going through your low back (Punjabi, 1992). Researchers have recently confirmed that poor posture also increases sensitivity to pain (Wileruth and Bohns, 2011). So, mom was right – time to sit up straight. Read more in this month's feature article. In addition, thanks to all who turned out for our Annual Fitness Physical event at the beginning of the month. We enjoyed meeting many new faces and helping so many reset their fitness plan to better meet their goals. Finally, this has been an artful month at BDI; catch up with our doings in "Performing Arts at BDI". Be well, and, as always, take a moment to breathe!

[Jen Gamboa](#), DPT, OCS,
President/BDI

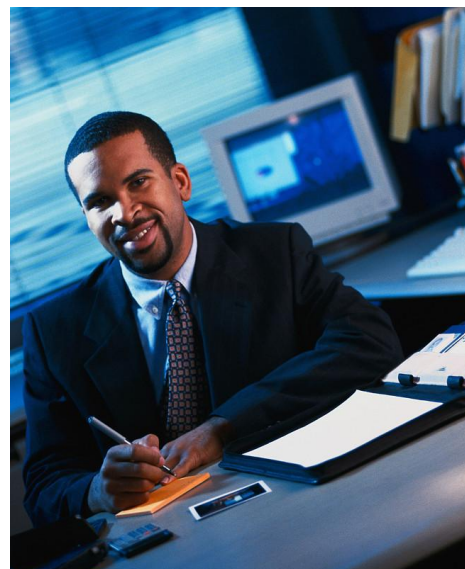
The Hazards of Sitting: Muscle Imbalances and Movement Dysfunction

By [Mark Shepherd](#), DPT
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Picture this: You're at work, you look at the clock, and it's just about time to head home. You realize that you have been sitting for the past 4 hours without getting up from your chair in front of your computer. Your neck aches and your back is stiff—does this sound familiar? You may be shocked to realize the amount of time that is spent sitting during the work week that can cause annoying aches and pains that creep up over time. It has been reported that these aches or repetitive strain injuries cause businesses over \$600 million in lost work hours. Microsoft surveyed 1,000 office workers and found that 68% suffered from pain, specifically in the back, shoulder and wrist/hand. So why does sitting, something that theoretically does not require much effort, cause so many problems?

The human body was not designed to sit at a desk for extended periods of time without a change in position. Not only do you have to assume correct sitting posture to avoid injury, you must also incorporate regular changes in position and exercise to combat the imbalances that can occur from sitting for most of your day over a period of time.

Vladimir Janda, a Czechoslovakian physician, coined the terms upper crossed and lower crossed syndrome to describe alternating patterns of tightness and weakness that predictably occur in our bodies and ultimately result in movement imbalances. Prolonged sitting, especially with poor posture, is one way this pattern may develop. Add to that a lack of regular exercise and you can understand why these syndromes may occur.



Within our bodies we have muscles that are designed to support or reinforce our joints, and muscles that move our bones to perform our daily activities. When you hear the term muscle imbalance you may think we are talking about having a tight or strong muscle on one side of a joint and a weak counterpart on the opposite side. This is true; however, with muscle imbalance we also see a change in how our muscles are used throughout our daily lives. If we think back to our mover and stabilizer muscles, when we perform any movement the muscles that stabilize our joints are supposed to contract first and then the mover muscle contracts to complete the task at hand. When this pattern becomes abnormal, dysfunctional movement is the result, and long-term dysfunctional movement is what can lead to overuse and repetitive strain injuries.

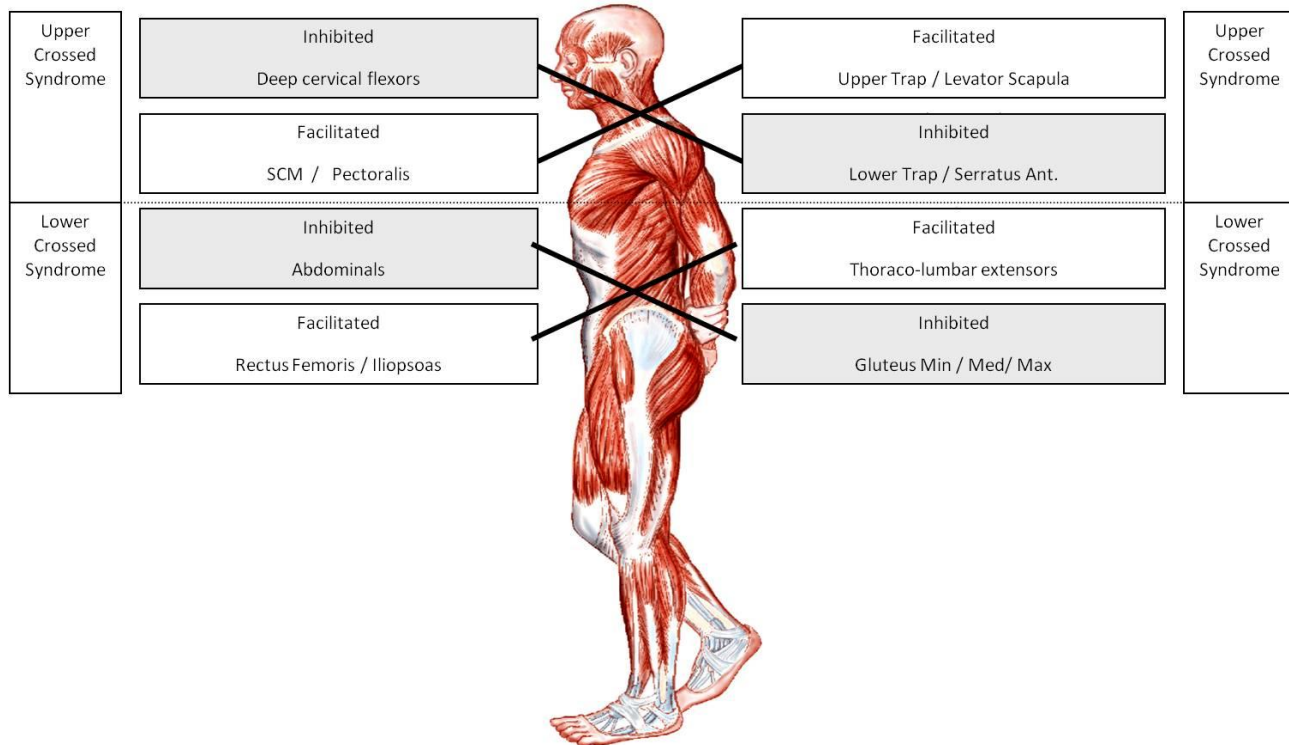


Figure 1: Janda's Muscle Imbalance Syndromes

Referring to the above picture, replace the word inhibited with lengthened/weak, and facilitated with shortened/tight and you will understand the results of the syndrome. As we sit for long periods of time, our muscles tend to adapt to our sustained postures causing some to become lengthened and others shortened. Shortened muscles such as upper trapezius, pectoralis, lumbar erectors and iliopsoas tend to be more easily activated by our brain. Lengthened muscles such as deep cervical flexors, lower trapezius, abdominals and gluteals tend to be less easily activated by our brain. Then during other activities, such as lifting, the shortened/facilitated muscles contract first and

the lengthened/inhibited muscles contract too late to properly control the moving joints, resulting in injury. Thus, with prolonged sitting without exercise, these crossed syndromes and dysfunctional movements can develop, setting you up for future aches and pains.

At Body Dynamics, Inc. you and your team can work together to reverse these patterns through massage, physical therapy and fitness. Bring in candid photos of you at your work station and we help you identify these cross patterns, suggest changes to your desk and prescribe exercises to combat the hazards of sitting.

Performing Arts at Body Dynamics

Did you happen to catch Oklahoma at Arena Stage last month? Or have you seen Les Misérables at the Kennedy Center yet? Or even Fela at the Sidney Harman Hall? Well you may not know this, but many of our physical therapists, certified trainers and massage therapists are proud to be working backstage with the performers and dancers from all three shows, in addition to our continued service at The Washington Ballet. Our extensive experience in dance medicine allows us to rehabilitate injured performers, minimize future injuries, and maximize performance capabilities. We were also happy to participate in the 21st annual International Association for Dance Medicine and Science (IADMS) conference in Washington, DC from October 13-16th. Jennifer Gamboa led a fascinating lecture on Managing Lumbopelvic Pain in Dancers, and BDI also donated supplies for the dancers and professionals at the conference.