



Tree of
Knowledge

ERGONOMICS FOR ARBORISTS AND LANDSCAPERS - PART 2

Safe Body Mechanics & Postures of the Arborist/Landscaper

by Camille Di Monte Peterson, P.T., and Barbara Henderson

Safe Body Mechanics is about letting your body work for you, instead of using motions that work against you.

“You can’t teach an old dog new tricks.” That is, unless that old dog has experienced a work related back, neck, or upper extremity injury, and has learned how to make his body work for him. It can be fascinating to watch a person who is experienced in their arborist or landscaping job perform their job tasks in the way that provides the least amount of stress to their bodies. There is a wealth of good information in these individuals, whether they know it or not. The key is to observe them, and tap into them for the information. Most of the time, they would be pleased to help out with any type of program or education that is necessary to assist others to prevent work-related injuries.

Body mechanics and postures assumed with work activities can contribute to injuries called *work-related musculoskeletal disorders (WMSDs)* or assist in preventing them. Poor posture, or assuming awkward postures for prolonged periods of time or frequently throughout the day, adds to the mix of problems workers can endure. Performing repetitious activities of the limbs, and positioning of the body in regards to the work also are factors in developing these work-related injuries.

Let’s review. What are work-related MSDs? Musculoskeletal disorders (MSDs) are injuries and disorders of the soft tissues (muscles, tendons, ligaments, joints, and cartilage) and nervous system. They can affect nearly all tissues, including the nerves and tendon sheaths, and most frequently involve the arms and back. Risk factors for MSDs include: force, repetition, awkward postures, static postures, quick motions, compression or contact stress, vibration, and cold temperatures. The damage from these injuries occurs slowly and over time.

Performing good techniques for safe body mechanics while working will aid in helping you to conserve energy, promote continued physical wellness, and prevent injuries to the most vulnerable areas of your body.

Because of the unique composition of our bodies, there is no *one* right way of doing a job properly for *all* people. People come in all different sizes and we must learn how to fit the job to the person. However, there are some fundamental guidelines that you can follow to minimize your risk for MSDs.

Fundamental principles and guidelines to follow:

- ◆ Always stretch prior to and throughout your work day.
- ◆ Keep yourself in good physical condition.
- ◆ Keep your work as close to your body as possible, or bring yourself as close to your work as possible.
- ◆ Square your body off to your work whenever possible.
- ◆ Re-position your body, don’t reach. Avoid twisting of the torso and reaching awkwardly to the side front or behind you when performing activities.
- ◆ Try to keep most or all of your work activity between shoulder and knuckle height either by adjusting the height of the worker to the work surface or adjusting the height of the work surface to the worker.
- ◆ Use a wide base of support while working by staggering your legs, and widening your stance greater than hip width.
- ◆ Bend hips and knees, or kneel to lower your self to your work instead of bending over through the back.
- ◆ Lift using your legs, while keeping lower back stable in the neutral position. The key point to remember is to reduce the horizontal distance the object is to the body.
- ◆ If objects are too heavy for you to lift alone, don’t be afraid to ask for help.
- ◆ While lifting (even light objects) get into the habit of tightening your lower abdominal (lower stomach) and lumbar (back) muscles like a corset.
- ◆ Keep tools close to your body, not extended away from you.
- ◆ Try to maintain a neutral posture while working, i.e., keeping your ears over shoulders, shoulders over hips, and hips over ankles. Chose a tool or equipment that will allow you to maintain a neutral posture (back, shoulder, wrist, and neck) as much as possible.
- ◆ While working with tools, keep wrists in a neutral position (hand straight out from wrist versus bent forward or backward). Keep elbows in to the body instead of angled outward and/or upward.
- ◆ Wear protective gloves with gel padding while using vibratory tools.
- ◆ Vary your physical tasks when possible. That is, try to break up repetitive physical tasks by switching from overhead activities to activities you can do while standing erect (work close to your body, and between shoulder and knuckle height) for example.

- ◆ Take hourly stretch breaks, lasting 2-3 min., and reverse postures you’ve been assuming while working. For example, if you’ve been working at shoulder level or overhead, looking up, slowly bend your head forward, and bring arms down and back, behind you. Also, because our work is in front of us most of the time, perform a backward bending motion with your torso.

At first, when applying these guidelines in your work, you may need to think the activity through before actually doing it. However, with practice and over time, these techniques for safe body mechanics will become automatic. It’s a matter of knowing what you can do to change your work habits, and applying the knowledge to your everyday activities.

Problem solve with your co-workers regarding a difficult concept or job task that you feel may not be safe. If you just start to apply these guidelines to your work, and develop techniques that work for your particular body, or if you decide to incorporate them into some sort of employee training program, you will be taking a big step forward in preventing work-related injuries.

How does this all tie into your ergonomics process? As an employer, you can incorporate this into your newly hired employee training program and as an ergonomic educational hands-on training program for your existing employees. You can also observe your employees and watch for danger signs, such as repeated twisting of the body, or excessive reaching and keeping work too far away. As an employee, you can show this article to your employer, and suggest they utilize the affordable tapes provided by FISTA for future training.

For additional training resources, or further detailed body mechanics training specific to the arborist/landscaper, you can purchase VHS training tapes by FISTA, “Body Mechanics for Arborists,” which break down the different job tasks of the work, and show how to incorporate the guidelines into your work, step by step. The tapes are made so that you can run through certain portions of the job such as felling a tree, limbing, or bucking and stop the tape, practice the activity, and then move on to another portion of the job.

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Additional Resources:

Occupational Biomechanics by Chaffin and the Revised NIOSH Lifting Equation Manual at www.cdc.gov/niosh. Elements of Ergonomics Programs, NIOSH, 1997. Copies can be ordered by contacting NIOSH at 1-800-35-NIOSH (1-800-356-4674) or www.cdc.gov/niosh/homepage.html.