

DoD Ergonomics Working Group NEWS



Issue 124, December 2011

<http://www.denix.osd.mil/ergoworkinggroup/>

Push, Don't Pull! Safe Material Moving

How Pulling Affects Your Body

Ankle. The heel becomes a high target while pulling an object behind you.

Hip. The hip is subject to a large amount of torque when you pull from the rear, making the joint prone to injury.

Hamstring. The hamstrings are not very useful in propelling the body forward. Pulling can lead to chronic hamstring injuries.

Lower Back. Notice the curve in your lower back as you pull a heavy load while walking.

Neck. When you pull an object, you tend to use more of your neck muscles. This can also lead to pinched nerves that ultimately affect the entire arm. Since your cervical spine is home to eight pairs of nerves that run down your arms, a pinch can lead to a lot of problems all the way down to the fingertips.

Elbow. This is the forgotten joint, small and vulnerable to strain. Pulling places a large strain on the elbow and can lead to future injuries. Pain associated with this type of injury is much like carpal tunnel but in the elbow. If you have ever had "tennis elbow" or "golfer's elbow," you can understand the pain.



Shoulder. Pulling a load like this sets you up for failure down the road—you are asking for injury by asking your body to perform this way. Anyone who has ever pinched a nerve in their shoulder or torn a rotator cuff knows this pain.

Continued on page 2

Why Pushing is the Way to GO

- Pushing gives you more control over the object being moved—exerting higher push forces than pulling, with less effort.
- You have the ability to use larger muscle groups for leverage, versus smaller muscle groups such as arms and shoulders.
- You have better visibility when you push. When you pull, you tend to turn to look back at your load, making it possible to be blindsided to possible hazards.

But not everything can be pushed so:

- Ask for assistance—use teamwork.
- Turn the pulling motion into a guiding motion; have someone push from the rear when possible, to divide the heavy workload.
- Lighten the load.

Sizing Up a Load

- Always size up the load. Even a small box can hide a large amount of weight.
- Never push a piece of equipment you cannot safely stop or maneuver.
- If you cannot see around the item or cannot easily push it, two or more people may be required for the move.

A fact sheet on how to safely perform pushing and pulling tasks, produced by the U.S. Army Institute of Public Health Ergonomics Program, is available at

<http://phc.amedd.army.mil/PHC%20Resource%20Library/Pushing%20and%20Pulling%20FS%2088-023-0511.pdf>



The content of this newsletter was provided by the Ergonomics Team, Fleet Readiness Center East, Cherry Point, North Carolina. Special thanks to Alura McElvain, Safety Specialist.