

## SAFETY TALK

# — Ergonomics

*What is Your Back IQ?*



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Back injuries are a painful, sometimes debilitating, and a problem in many industries. Back strains can often be avoided by reducing the size or weight of materials employees handle, using mechanical aids such as hoists, conveyers or hydraulic lifts, and making certain that employees are well trained in lifting techniques. The key to back care lies with the individual worker. Everyone should be a back care "expert" and be able to answer the following questions:

### What's the most important lifting rule to remember?

**Keep The Load Close!** There are many other lifting rules, like "bend your knees" and "lift with your legs," but you can't do this in every situation. Research has also shown that leg muscles become fatigued when frequent lifts are required so other techniques must be used as well.

### If you do not hold a load close to your body, how much heavier is the "experienced" weight than the actual weight?

Ten times as heavy! The back operates as a simple lever with the fulcrum in the lower back. Back muscles serve as the power arm; the load being lifted is the weight arm, and a 10 to 1 lever ratio exists in the lower back. The further away you hold the load, the "heavier" it is.

### Why never twist with a load?

Lumbar (lower back) vertebrae, disks, and joints are under the most vertical pressure when lifting a load. Twisting with a load creates a "shearing" effect on these tissues. The more "mileage" you have on your back, the less forgiving it will be under this pressure.

### Which muscles are most important for keeping the spine in its strong S-shaped curve?

Abdominal muscles, which work in cooperation with back muscles to support your spine. The trouble is abdominals tend to weaken over time. It helps to tighten them during a heavy lift but more importantly, keep them in good shape.

### How can stress in your life affect back pain?

Whether you're aware of it or not, emotional stress can tighten muscles. Often, fatigued back muscles are the most affected and the first to feel it. It's been said that back ache is just a tension headache that "slipped."

Practice and apply the principles of proper body mechanics and lifting techniques on the job, you'll improve your chances of being injury free and able to do all of the things you hope to both at home and work.

### Don't become a back injury statistic!