

# Sample Back Safety and Ergonomics Training Handout

## Ergonomics - What is it?

Ergonomics is about fitting the job to the body's needs, rather than forcing the individual to fit the job. Depending on the type of work that you do, your job may involve movements or activities that cause you discomfort, pain or even an injury. The number one work-related injury involves the back. An understanding of Ergonomics enables you to change your workstation, tools, equipment, controls, and environment or even company policies so that your job better fits your physical capabilities. You will also learn the best techniques for proper lifting and materials handling.

## How the Back Works

The back is the foundation of the entire body. It holds the body up. The back operates at a 10-to-1 ratio with the waist as the pivot point: when you bend at the waist, the actual amount of weight is magnified 10 times on the lower back. The actual amount of weight includes the weight of the upper body, which accounts for about two-thirds of your total body weight.

Find your weight in the left-hand column. Round off to the nearest number. Use the nearest number on the bottom row for the number of times you bend at the waist each day. For example, if you weigh 180 pounds and bend at the waist eight times a day, you are putting an additional 9,600 pounds of stress on your lower back every day.

**Additional Pounds of Stress on Your Back**

<b>Your Body Weight</b>	250	1650	3300	6600	9900	13200	16500	33000	49500
	240	1580	3160	6320	9480	12640	15800	31600	47400
	230	1520	3040	6080	9120	12160	15200	30400	45600
	220	1450	2900	5800	8700	11600	14500	29000	43500
	210	1400	2800	5600	8400	11200	14000	28000	42000
	200	1320	2640	5280	7920	10560	13200	26400	39600
	190	1250	2500	5000	7500	10000	12500	25000	37500
	180	1200	2400	4800	7200	9600	12000	24000	36000
	170	1120	2240	4400	6720	8960	11200	22400	33600
	160	1050	2100	4200	6300	8400	10500	21000	31500
	150	990	1980	3960	5940	7920	9900	19800	29700
	140	920	1840	3680	5520	7360	9200	18400	27600
130	860	1720	3440	5160	6880	8600	17200	25800	
120	800	1600	3200	4800	6400	8000	16000	24000	
	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>20</b>	<b>30</b>	
	<b>Number of Times You Bend at the Waist Every Day</b>								

## What activities and movements are we talking about?

Most back injuries are caused over time, rather than in one single incident. The company tries to identify risk factors. When we find a risk factor, we will look more closely at the job to determine how we can change the physical conditions or make procedural changes to reduce your risk of injury. The following are examples of risk factors.

- **Repetition** – Repeating the same motions frequently (e.g., frequent lifting) and for prolonged periods (e.g., 8 hour shifts).
- **Excessive Twisting or Bending**- Employees must reach for items, causing twisting, bending, or strain. Instead, employees should turn with their legs or feet.

- **Poor Physical Condition** – Being overweight puts additional strain on the lower back. Lack of proper exercise causes your back and stomach muscles to lose their strength and flexibility.
- **Poor or Awkward Posture** - Body posture dictates which muscles and joints are used and the amount of force generated. Employees should avoid slouching forward, twisting or bending, and sitting in one position for a prolonged period.
- **Jobs that require high energy/fatigue** - Tasks that use the same muscles or motions for long durations (6 seconds or more at one time) and repetitively (more than 50% repetition) increase the likelihood of fatigue.
- **Incorrect lifting and materials handling** - Employees that lift, push, or pull loads, supplies, or other materials are at risk for a back injury. Improper lifting is the number one cause of cumulative trauma back disorders. The amount of weight is typically not the problem, rather it is the manner and frequency in which the lift is performed.

### Proper Lifting Techniques

The generally accepted way to lift an object and reduce the risk factors include:

1. Stretch first.
2. Get as close as possible to the load when lifting.
3. Stagger your feet for better balance.
4. Squat down, bending your knees.
5. Keep your stomach muscles tight. Maintain the natural “S” curve of the back.
6. Keep the load close to your body.
7. Stand up slowly, keeping your back straight.
8. Do not twist your upper body while carrying the load. Turn with your feet or legs.
9. Set the load down slowly, bending your knees and keeping your back straight.

### Other Lifting Tips

- Use mechanical assist devices. (Your best tip.)
- Get help if load is too heavy or awkward. Never attempt to lift a load beyond your capabilities.
- Reduce the amount of weight lifted.
- Use handles and lifting straps.
- The higher the frequency of lifts, the lower the amount of weight that should be lifted.
- Slow down. If you are doing a lot of heavy, repetitive lifting, take it slowly if you can.
- Keep the heaviest end of the load closest to the body to support the weight of the object.
- Maintain proper body mechanics at all times.
- Take periodic rest breaks so that your body can recover.
- Sleep on a firm mattress. Sleep on your back with the knees slightly elevated (with a pillow) or on your side with knees slightly bent.
- Get in shape. Lose weight, strengthen your stomach muscles, and increase your flexibility.

### What should you do if you have back pain or your job involves these risk factors?

It is very important for employees experiencing back pain to report it as early as possible. It is also important for you to alert your supervisor of any work activities that might trigger or aggravate an ergonomic disorder or injury. Report any symptoms or risk factors to your supervisor or designated representative.

Report Ergonomic concerns to: \_\_\_\_\_ Phone: \_\_\_\_\_