

The average technician or assistant involved with portable fire equipment would lift or carry on average not less than less than 4-500kg per day.

How best to prevent injuries, and this talk give you how to perform the task correctly with the reasons why.



Back injuries are a painful, sometimes debilitating, problem in many industries. Back strains can often be avoided by reducing the size or weight of materials handled by employees, by using mechanical aids such as hoists, conveyers or hydraulic lifts, and by making certain that employees are well trained in lifting techniques. But 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:

**Q: What's the most important lifting rule to remember?**

**A: 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.

**Q: If you don't hold a load close to your body, how much heavier is the "experienced" weight than the actual weight?**

**A: 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 10-1 lever ratio exists in the lower back. The further away you hold the load, the "heavier" it is.

**Q: Why never twist with a load?**

**A: 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.**

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

**A: 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.**

**Q: How can stress in your life effect back pain?**

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

**Q:** What time of the day are back strains most likely to happen?

**A:** In the morning, or at the beginning of a work shift, when muscles aren't "warmed up." Trends also show an increase following the lunch hour, perhaps because blood circulation is in the stomach, instead of the large muscles, and because people may be sleepy and inattentive then.

**Q:** How does keeping flexible help prevent back and muscle strains?

**A:** Muscles tend to *shorten* when not used to their full capacity. Flexible muscles are less likely to be strained and injured than "tight" muscles, when sudden or heavy power is required. Pre- work stretching programs have been very successful in preventing back and muscle strains.

Take a tip from professional athletes--they warm up before a game! Even five minutes helps!

# LIFTING DO'S & DON'TS

<p><b>DO LIFT AS A TEAM</b></p>  <p>Do lift bulky or heavy loads as a team. Doing so is smart and the safe way to work.</p>	<p><b>DO TURN WITH LEGS</b></p>  <p>Do move your legs and feet when turning or lowering the load. Avoid twisting at your waist.</p>	<p><b>DO USE YOUR LEGS</b></p> <p>Do lift the load using your powerful leg and buttocks muscles. Your feet should be wide apart, head and back upright. Keep abdominal muscles tight and the load in close.</p> 	<p><b>DO USE EQUIPMENT</b></p> <p>Do use equipment like hand trucks, dolly's, or forklifts to do the heavy lifting. It's much less work and less risk of injury.</p> 
<p><b>DON'T LIFT BULKY LOADS ALONE</b></p>  <p>Don't lift bulky or heavy loads alone. Doing so puts great stress on your low back muscles and spine.</p>	<p><b>DON'T TWIST WHEN LIFTING</b></p>  <p>Don't twist when lifting, lowering, or carrying any load as this increases your risk of back injury.</p>	<p><b>DON'T USE YOUR BACK</b></p> <p>Don't lift the load with your rear end high and your lead low. Use your leg muscles, not your weaker low back muscles.</p> 	<p><b>DON'T LIFT HEAVY LOADS</b></p>  <p>Don't lift heavy loads when you can use equipment. It is less work and less stress on your low back.</p>



## TOOL BOX 027-Back Injuries

The correct lifting procedure for a fire extinguisher is that you should lift it off the bracket by pushing it up holding the bottom and then letting it drop to a comfortable carrying height using your other hand to guide the drop, holding it by the handle.

This method of removing an extinguisher from the hanging bracket should be communicated to you clients, and be taught during basic fire training lessons.

<b>Presented By:</b> Name: _____	<b>Date</b> _____	<b>Signature</b> _____
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