Back injuries

By John N. Waller

Before you begin

Review your business operations for job tasks that are recognized lifting hazards. Determine if there are mechanical-lifting alternatives that your organization could use. Review any back-related incidents at your facility.

Be prepared to discuss your findings with the group you are instructing. As a group, inspect your workplace for areas that may require employees to do lifting. Observe an employee lifting an object and review his/her technique.

Ask the group how many employees have back injuries. From a statistical perspective, back injuries are one of the most common causes of lost-time workplace injuries. According to U.S. Department of Labor's Bureau of Labor Statistics, back injuries accounted for more than 280,000 nonfatal injuries in 2004 for private industries. Reports indicate 80 percent of Americans will experience back pain at some time in their lives, and fortunately, most will recover without requiring treatment within a couple of days. A small percentage will require surgical intervention and may suffer permanent disabilities.

Back pain primarily affects people between 25 to 60 years old. Back pain is described as being acute or chronic. Acute pain suddenly occurs and usually clears up in a short amount of time. Chronic pain is long term and may require continuous treatment or care.

Back anatomy

Review the back's anatomy. The back is a complicated piece of equipment that has numerous parts requiring proper care and use to remain productive. At birth you have 33 vertebrae. As you age, certain vertebrae naturally fuse. Most adults have 24 vertebrae.

The spine is divided into segments. Ask a group member to identify the segments. For example, the spine's uppermost part, your neck, is the cervical spine, consisting of the top five vertebrae. Next, the upper back, is the thoracic spine, consisting of 12 vertebrae. The lower back, or the lumbar spine consists of 5 vertebrae. The lumbar vertebrae are the thickest vertebrae because the spine's lumbar section supports the greatest body weight. These vertebrae also receive the most physical stress when you lift.

Preventive measures

Improper use of this equipment causes it to fail. Taking care of your back provides some protection, but there are contributing factors that may increase your risk of back injuries. It may be a combination of factors that include:

- The size or weight of the object you attempt to lift;
- Repetitive lifting of light objects;
- Correct posture when lifting;
- Physical conditioning;
- Everyday stress.

Ask the group if anyone knows the proper way to lift. Safely lifting requires you to preplan your lift. Size up the object. Is it too heavy or bulky to handle alone? Can you use a mechanical lifting device, (i.e., a forklift), or do you need to ask for assistance from a co-worker? If you decide you can safely lift the item, posture is the next critical rule to follow in preventing injury.

Correct lifting requires you to:

- Squat in front of the object with your feet close to the object you are lifting;
- Ensure you have a good grip on the object. You do not want it to shift while you are lifting;
- Keep the load close to your body when you lift;
- Lift straight up;
- Do not twist or turn while you lift;
- Set the object down the same way you lifted it.

Properly maintaining your back, using exercises recommended by your doctor or other heath-care providers will help protect your back from injuries.

BWC Division of Safety & Hygiene guidelines

Proper preparation and lifting techniques will help prevent back injuries. However, BWC's Division of Safety & Hygiene lifting guidelines on **ohiobwc.com**, explain the best way to prevent work-related back pain is to engineer out the hazards by:

- Eliminating unnecessary lifting. Whenever possible, eliminate manual-material handling by combining operations or shortening the distances that material must be moved. Look at the material flow through your facility and eliminate unnecessary lifts;
- Automate or mechanize lifting. If it is not possible to eliminate the lift, consider automating the lifting task or using a mechanical device. Devices such as hoists, cranes and manipulators can eliminate the forces on the spine associated with manual-materials handling;
- Modify the job to fit within worker capabilities. If material must be handled manually, design the job to reduce the stress on the body as much as possible. For example, job modifications could allow for lifting loads as close to the body as possible. Some techniques to reduce distances are:
  - Eliminating any barriers, such as the sides of bins or boxes;
  - Using a turntable for loads on pallets;
  - Using a tilt table to allow for better access into bins.

Place the load as close to waist height as possible. You may use adjustable lift tables or inclined conveyors to locate the object to be handled at waist height. Reduce the need to twist the trunk by re-orienting the lifting origins and destinations. Reduce the weight of the load being lifted so the weights are within these lifting guidelines.

Back injuries can lead to a lifetime of discomfort. Be smart. Do not take unnecessary chances. Be a leader in preventing back injuries for your employees today.

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BWC strives to improve the *Safety Leader's Discussion Guide*. Your feedback can help. Please send your comments via e-mail to **Safety@ohiobwc.com**.

References

- Online Safety Library: Back Safety (Oklahoma State University Environmental Health and Safety): www.ehs.okstate.edu/links/back.htm
- Mayo Foundation for Medical Education and Research
- National Safety Council
- Mine Safety and Health Administration