Health & Safety

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Back Belts— Do They Really Help?

It seems that everywhere you look these days, people are wearing back support belts. You see them being worn by grocery store employees, warehouse workers—wherever any kind of lifting is involved. The questions is: Do they really work?

The National Institute for Occupational Safety & Health (NIOSH) must have had the same question in mind when it formed a working group to review the current scientific literature related to back belts. This group evaluated more than 20 recently published research reports that claimed to assess the effectiveness of back belts. The goal was to determine adequacy of the data, as well as reliability of the report conclusions.

The working group determined that "there is insufficient evidence to conclude that wearing back belts reduces risk of injury to the back," and stated that "the effectiveness of using back belts to lessen the risk of back injury among uninjured workers remains unproven."[1]

The Effect on Employers

There is considerable interest in these research reports, as well as in the NIOSH recommendations, because back injuries account for significant lost work days and added expense. From 60–70 percent of the general population can be expected to have at least one significant episode of back strain within a lifetime.[2] The National Safety Council reported that back injury claims in 1993 accounted for one-third of all workers' compensation lost-time cases. It also stated that back injuries were about one-third more expensive and tended to last longer than other claims.[3] In 1988, back injuries averaged about 28 lost-time days per 100 workers, and the overall cost of back injuries to U.S. industries was estimated to be between 26.8 and 56 billion dollars.[2]

Both workers and employers are concerned about the incidence of back injuries, and many have turned to back belts with the hope of eliminating—or at least reducing—the pain and suffering, as well as reducing costs and lost time that result from back injuries. Unfortunately, as the NIOSH study confirmed, there is no clear consensus on the benefits to wearing a back belt. Many claims are made by those who support the use of back belts … and many concerns are raised by those who oppose their use.

Pros & Cons

Advantages

Advocates claim that using back belts can:

- Cause an increase in intra-abdominal pressure, which provides support to the spinal column
- Reduce the "loading" or force exerted on the spine during lifting
- Restrict the range of motion of the back, which in turn prevents the wearer from performing lifts while twisting the back or bending forward at the waist
- Act as a reminder to promote good lifting technique
- Reduce muscle strain and fatigue
- Maintain the normal curvature and stiffen the spine
- Give weak muscles extra support needed to protect against injury
- Are soothing and provide local heat, thereby increasing the circulation to back muscles
- Increase functional lifting capacity

Disadvantages

Those who oppose the use of back belts claim that they:

- Create a false sense of security, which may cause workers to overlift
- Fail to provide any significant reduction in spinal loading
- Do not improve functional lifting capacity
- Can be uncomfortable, too hot or sweaty, and tend to rub and pinch
- Cause an increase in blood pressure and heart rate, thereby placing a strain on the cardiovas-

cular system, which may place some individuals at risk
- Cause wearers to lose muscle tone
- Increase back injuries when workers stop wearing the belt

Unfortunately, several years and many more studies are needed before back belts can be conclusively proven to be effective or ineffective. Employers (and workers) who choose to provide back belts in the workplace are cautioned to consider the following recommendations:

1. Workers should be screened for cardiovascular risk factors by a medical professional before beginning to wear a back belt.
2. Workers should be educated on lifting mechanics, as well as on the use and limitations of back belts.
3. Ergonomic assessments of workplace lifting activities should be performed to ensure that work activities do not exceed the physical capabilities and capacities of the workers.
4. Back belts should not be considered for long-term use.
5. Belts must be correctly selected and fitted for each individual.[4]
6. Occupational health professionals should be consulted, if available, during the decision-making process to determine the appropriateness of back belts within a workplace, and to assess an individual worker's suitability for wearing a back belt.
7. Employees who use back belts should be monitored to ensure that the belts are worn correctly and that employees continue to use good body mechanics and lifting techniques.

A subsequent "Health & Safety" column will discuss the prevention of workplace back injuries. ***P&SF***

References

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3. B.E. Karas & K.M. Conrad, "Back injury prevention interventions in the workplace, an integrative review," *AAOHN Journal*, Vol. 44, #4, p. 189 (1996).
4. F.W. Darby, "Lifting belts, are they worth it?" *Safeguard*, p. 18 (May 1994).

About the Columnist

Jane Lemke is a registered nurse who has worked as an occupational health nurse and safety coordinator in various industrial settings. She currently is a health and safety consultant, and also teaches health and safety at a local community college.