KEELSON Safety Summary

BACK INJURY LOSS PREVENTION

SEPTEMBER 2001

Most safety professionals and ergonomists agree that injury prevention is the most effective way of reducing low back pain cases and costs. Techniques for preventing injury include equipment and job redesign, worker training, conditioning, and consulting and screening programs to keep susceptible employees away from jobs involving back strain.

Strategies employers may use to reduce workplace back pain problems include:

- improving job design to reduce stresses and strains that cause or contribute to back injuries;
- conducting training programs to teach employees lifting techniques, ergonomic principles and other work practices that may reduce the risk of back injury;
- encouraging employees to engage in exercise regimens to strengthen the abdominal muscles and other muscle groups that help support the back; and
- establishing injury management programs to minimize lost workdays, reduce unnecessary medical treatment, and rehabilitate workers who have suffered back injuries (See Keelson Safety Summary, "Return-to-Work", September 2001).

Other injury prevention and control methods include: job rotation, job enlargement, providing short breaks periodically, putt9ing additional employees on the job, and assigning light work

Job Redesign

Job redesign is the most effective strategy to reduce back injuries. It deals with almost all of the elements of a job including tool and equipment/furniture design, the size, weight, and shape of items handled by employees, and work scheduling and organization.

Ergonomists recommend that tools, equipment/furniture, floor surfaces and work flow be designed to reduce stress on the back. Twisting, reaching, bending, and lifting also are risk factors, and should be eliminated or reduced. Chair design, footrests, floor conditions, shelf height, table angle and height, mechanical aids are among the many factors critical to good workstation design. The relationship of the workstation to the overall workflow also should be considered.

According to the ergonomic community, work objects should be convenient to handle. This involves the size, shape, and weight of objects, the use of mechanical aids, and the location of work objects in relation to the employee (the closer to the waist, the better). Proper handling also includes "body mechanics" and proper manual materials handling methods. Object weight is important but not the only consideration, ergonomists

emphasize. Bending, twisting, and reaching can add to the risks posed by lifting an object.

Ergonomists also say that work organization and administration are crucial to reducing the risk of back injury. Rushed work, jerky and repetitive motions, and job requiring employees to be in a stationary position for prolonged time can precipitate back injuries. Properly scheduled breaks can reduce back stress.

Effective job design depends on careful evaluation of the entire work process. Evaluation should include identification of risk factors, which can contribute to back injuries and should provide detailed recommendations to reduce worker exposure to these risk factors.

Worker Protection and Training

Other strategies for reducing back injuries are worker protection and training.

A variety of material that describes the techniques of lifting, sitting, standing, and sleeping in a manner that minimizes back pain should be made available for employees to choose.

Workers should be trained in small groups in proper materials handling procedures. Training should include basic instructions on the proper use of tools and materials; instructions on emergency procedures; the basic biomechanics of lifting; the effects of lifting on the body; methods for estimating lifting capacity; recognition of factors that may contribute to an injury; safe lifting postures, timing and other handling skills; and the proper use of materials handling aids such as rollers, jacks, and trucks.

Principles for reducing lifting hazards should be demonstrated by supervisors and practiced by trainees under supervisor observation.

Training should be job-specific and should include exercise programs.

The National Institute for Occupational Safety and Health (NIOSH) emphasizes that training programs for workers should include:

- Property lifting techniques.

- Emphasis on the importance of preventing the initial back injury. A back that has sustained an injury is much more susceptible to reinjury.

- Emphasis on the importance of requesting help. When in doubt about whether a task may stain the back, a worker should be told to request help rather than take a chance.

- Emphasis on the importance of performing back exercises. Employers should consult a physician or physical therapist for a proper exercise program.

In essence, the primary approach to preventing back injuries involves reducing manual lifting and other load-handling tasks that are biomechannically stressful. The secondary approach relies on teaching workers how to perform stressful tasks while minimizing the biomechanical forces on the back. Both approaches require management commitment and support.

For more Information

For more information on "Back Injury Loss Prevention" or other safety and health issues, contact:

Keelson Partners
1220 SW Morrison Suite 400
Portland, OR 97205
(503) 226-1422
Fax (503) 226-2488
www.keelson.com