

ERGONOMICS IN CONSTRUCTION

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Ergonomics is becoming a popular word now. Cars are sold because of ergonomic features. Secretaries are suffering from wrist injuries because of ergonomic problems with their workstations. But what does it mean for construction workers?

Ergonomics generally means trying to change the workplace to fit the worker and prevent injuries. Ergonomists, however, often focus on the prevention of musculoskeletal injuries, e.g. back injuries, wrist problems, knee and shoulder injuries. This is where most of the injuries lie and most of the costs for workers compensation. About one-quarter to one-third of workplace injuries are ergonomic injuries and they represent about one-half of workers compensation costs. Even back injury is estimated to cost contractors about \$9000 in compensation and medical costs. Many workers are also being forced to retire early because they are injured or their body is worn out. Rodmen, for example, often can't work past their fifties because of the strenuous nature of their work. So if we think of ergonomics in construction as the prevention of back injuries and other sprains and strains, it is clearly an important area for contractors and workers to focus on.

What Causes Ergonomic Injuries?

Ergonomic injuries are associated with several well known risk factors. These include highly repetitive tasks; large amounts of lifting, lowering or force; awkward postures; vibrating tools or equipment; cold stress; and uncomfortable tool grips. Of course, these are common problems in construction work. Some people might argue that these are just part of the job and nothing can be done about the problem. But some contractors have been able to reduce their injury rates successfully. Although construction work will never be like a desk job, it can clearly be made safer and injury rates can be reduced.

What Can Be Done To Prevent Ergonomic Injuries?

Prevention of ergonomic injuries involves identifying those jobs or tasks that place workers at higher risk of injury and then designing interventions or solutions that will reduce the risk. High-risk jobs can be identified by looking at injury records (OSHA logs and workers' compensation reports), talking with the insurance carrier, and talking with workers about which jobs they find particularly difficult to do. Workers often can tell you which jobs need to be looked at and have the best idea as to how jobs could be modified. The goal is to work smarter not harder.

Checklists - A checklist can be used. The Center to Protect Workers' Rights, the research arm of the Building and Construction Trades Department (AFL-CIO) is working to develop a checklist for ergonomic hazards in construction. It asks simple questions like "Are carts and dollies readily available on the jobsite? If so, are they being used? If not, why not?" It may be the workers are not using carts or dollies because poor housekeeping makes it hard to move them about the site. As a result more manual materials-handling is required, placing workers at higher risk of injury. So simply cleaning up a site could prevent many sprains and strains. While not all injuries will be prevented, many of them can.

New Tools - Tools and equipment can also be a source for ergonomic injuries. Vibrating pneumatic pavement breakers can cause injury to the hands, wrists, and shoulders. Poor seating on construction vehicles can cause injury to workers from whole-body vibration. Using poorly designed tools in awkward positions or repetitively is another possible problem. Recently, tool manufacturers have begun paying attention to ergonomics and changing the design of tools to make them more comfortable. Such design features should be considered whenever new tools or equipment are purchased. The best tool for the job is often the one that is the most comfortable and easiest to use.

Worker Training - Worker training is another important element in injury prevention. Workers should be taught about the ways work can result in ergonomic injuries and how injuries can be prevented by redesigning jobs and different work methods. Workers should be encouraged to

suggest how work methods can be improved. CPWR is producing a short video for workers that discusses ergonomic problems and solutions. Workers must also be encouraged to report symptoms of injury early to allow for treatment before injuries can become more serious.

Exercise programs - On-site exercise programs help workers stretch their muscles before work and are thought to help prevent injuries as well. Several such programs are available now and they are becoming increasingly popular with contractors.

Preplanning - Preplanning can also prevent injuries. For example, materials should be delivered as close as possible to where they will be used to reduce the amount of manual handling. Each job should include a discussion of ergonomic considerations and materials handling planning in its prejob-planning meetings.

Different Work Organization - Work methods and work organization can also be an important factor in preventing injuries. Often injuries can occur when workers are rushed by production schedules or there is not enough help. Workers must be encouraged to get help to lift heavy materials and to take the time to do the work safely, even when there are production pressures. Supervisors also must clearly understand the emphasis on safety and support it in their decisions. As injuries are prevented, this focus will save money. An emphasis on safety must come from the top down.

Return-to-Work Programs - Return-to-work programs can help reduce injury problems. Statistics show that the longer workers are away from work, the harder it will be for them ever to get back to work. And a small percentage of cases end up costing the most amount of money. So a program to get workers back to work at productive jobs as soon as possible benefits the workers and contractors. To do this contractors have to consider the essential requirements of each job and try to figure out what jobs a worker might be able to do even if not yet back to 100% of his or her abilities.

Research - CPWR is engaged in an on-going research project funded by NIOSH to help identify high risk tasks in construction and figure out what can be done to reduce the risk of injury. Training

materials are also being developed. Several publications are available from the CPWR on ergonomics and construction. For more information or publications contact CPWR at (202) 962-8490. CPWR has also funded a resource center at the University of Iowa to collect information about ergonomic problems and solutions in construction. They have published a bibliography of available information. Specific queries can be made to Mike Olson at the University. His number is (319) 335-4617.

OSHA Regulation

OSHA will be proposing a new regulation to prevent ergonomic injuries in the Fall of 1994. While it will not go into effect for a few years, it will inevitably affect the way construction work is done. Many of the elements, like prejob planning, checklists, and better tools, could become requirements. The CPWR is working with OSHA in the development of this rule to help them make it work in the construction industry. The two organizations are also developing a survey for contractors to find out what successes you have had in preventing ergonomic injuries and how it was done. Meanwhile, putting such elements to work on your sites now will probably prevent injuries and get you in front of the curve.



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ADMINISTRATOR'S COMMENTS

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As I collect my thoughts to prepare these comments, I am quickly reminded that my term as your Administrator is half over. How fast time flies.

In our last discussion, I stressed the new "Construction Specialty Certification" offered by the BCSP and the other lower tier certifications soon to be offered. The October exam is now behind us and what few comments I've heard have been very positive. I am not yet aware (at this writing) of the success rate, but I feel certain it too will be positive.

In this newsletter, you will notice a brief survey. The survey is self-explanatory and its primary purpose is for ASSE to establish a database of instructors for teaching a preparatory study course for the "Safety Trained Supervisor" designation. Give this some thought and if you are qualified, make yourself known so the details can be refined and courses offered. This is an excellent opportunity for all of us to offer input to the profession and strengthen the Construction Industry.

Hopefully, we've all received the preliminary PDC program. It's not too early to get registered. Our



Division luncheon will be held on Thursday, June 22, 1995, followed immediately by our "Educational Session." Assistant Administrator, Richard King, has an excellent program prepared which we should all find very informative. As you complete your registration, don't overlook the "Safety Technology 2000" symposium. This program will add greatly to an already magnificent PDC.

The Construction Division will soon be announcing this year's "Safety Professional of the Year." Several calls have been received and interest has been expressed on behalf of some of our overseas members. This is an outstanding peer recognition and many of our members are deserving candidates each year. The problem is, to be considered they must first be nominated. Let's all think ahead and have nominees in mind all year and then take the initiative to submit them when the announcement is made. Individual members may submit their own nomination.

We are always on the alert for members to accept leadership roles in the Division. Suggestions can be forwarded to any of the current officers and will be passed on to the Nominating Committee for their evaluation in preparing a slate of officers.

As we wind down 1994, let your Division leaders be quick to extend a big thanks for your participation and wish to each of you a happy and prosperous New Year.

Joseph W. Crawford
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