



Prevention of Musculoskeletal Disorders

environment both the physical and psychosocial environment). They can also result from fractures sustained in an accident. Typically, MSDs affect the back, neck, shoulders and upper limbs; less often they affect the lower limbs.

DISCUSSION

Protecting Employees

For many operations, the number and severity of injuries resulting from physical overexertion, as well as associated costs, may be substantially reduced. It is recommended that employers develop a process for systematically addressing ergonomic issues in their work environments and incorporate this process into their existing safety and health programs. To be most effective, the process should be tailored to an individual vessel/installation's operations.

Shipboard and shore side management personnel should consider the general steps discussed below when establishing and implementing an ergonomics program. It should be noted, however, that each vessel/installation may have different needs and limitations that should be considered when identifying and correcting workplace problems. Vessel/installations may implement different types of programs and activities and may assign staff from a variety of departments to accomplish the goals of the ergonomics program.

Providing Management Support. Strong support by management is critical for the overall success of an ergonomics process. Vessels/installations should develop clear goals and objectives for the ergonomics process, discuss them with the employees, and assign responsibilities to the designated staff members to achieve those goals, and provide feedback to employees. Implementation of an effective ergonomics process includes a sustained effort, the coordination of activities, and the resources necessary to ensure that the objectives of the ergonomics process will be accomplished.

Many ship/vessel operators have successfully integrated more than an ergonomics process into their business; for example, the "just-in-time", "six-sigma", "lean manufacturing", and "five S" strategies focus on providing the right material to the right place at the right time in a proper manner. These strategies attempt to eliminate non-value activities and reduce variability in business processes. Ergonomics is a good fit with these strategies - ergonomic principles help to identify and control activities that detract from employee performance and may lead to MSDs.

Involving Employees. Employees are a vital source of information about hazards in their workplaces. They have a unique insight into the problems of their jobs and can assist in identifying work-related risk factors. Employees' opinions and suggestions for change are valuable, particularly in such a difficult and complex work environment as a vessel/installation. Employees can provide early reports of MSD symptoms, submit their concerns and suggestions for reducing exposure to risk factors, and evaluate the changes made as a result of an ergonomic assessment. They can also participate in other activities such as ergonomic task groups and respond to management surveys and questionnaires.

Employee involvement in the ergonomics process may also enhance employee morale and job satisfaction. Employee involvement leads to greater acceptance when changes are made and to better understanding of ergonomics both on and off the job.

Providing Training. Training is also an important element of the ergonomics process. Training ensures that employees are informed about ergonomic concerns in the workplace and ways to minimize the risk of injury. Training is best provided by individuals who have experience with ergonomic issues in the maritime industry. Training should be provided in a manner and language that all employees can understand.

Training prepares employees for active participation in the ergonomics process, including identifying potential problems, implementing solutions, and evaluating the process. Effective training includes: