



MIOSHA Fact Sheet

General Industry Safety & Health Division

Ergonomics

What is “Ergonomics?”

Simply put **Ergonomics is fitting the task to the person.** Too often employees perform job tasks that expose them to potential injuries and illnesses due to the poor design of a workstation or tool they are using. Ergonomics involves the assessment of job tasks to identify ergonomic risk factors and subsequently the implementation of engineering or administrative controls to reduce or eliminate the hazards. Generally, ergonomic changes are made to improve the fit between the demands of the job tasks and the capabilities of the employees.

What are Ergonomic Risk Factors?

Ergonomic risk factors are characteristics of a job that contribute to the creation of ergonomic hazards. Risk factors are present at varying levels for different jobs and tasks. Generally, the greater the exposure to a single risk factor or combination of risk factors, the greater the probability of an ergonomic injury or illness.

The big three ergonomic risk factors are Force (how much you lift/push/pull), Repetition (how often you perform the task), and Posture (body position). Other potential ergonomic risk factors include vibration, contact stress, sustained exertions, and cold temperatures.

What are the Basic Elements of an Ergonomic Program?

Much like overall health and safety programs, effective ergonomic programs utilize a systems approach involving the following elements.

Management Commitment and Employee Involvement – Successful ergonomic programs are those that have everyone moving in the same direction working towards a common set of goals. The full backing of management is necessary which includes allocating resources and time to the cause. Employees perform the job tasks and many times are best prepared to assist with solving the problems.

Worksite Hazard Assessments – Establish an ergonomic committee comprised of management and employees to devote time to ergonomic issues including conducting assessments of job tasks that are showing early signs of or are actually causing ergonomic-related injuries and illnesses.

Hazard Prevention and Control – Pursue equipment purchases, workstation redesigns, modified work practices, and other tools that are identified by the ergonomic committee as ways to reduce or eliminate ergonomic hazards.

Education and Training – Provide ergonomic training for appropriate employees and management staff on how to recognize the primary ergonomic risk factors of Force, Repetition, and Posture. Educate them on the early symptoms of ergonomic-related injuries and illnesses and the proper procedures for reporting and/or recording them.

Medical Management – Implement a medical management program that includes establishment of one occupational physician or group that is familiar with your operation. Refer all employees who have suspected workplace ergonomic injuries and illnesses to this physician or group for appropriate diagnosis and treatment.

What is the Cost \$\$ to Address Ergonomic Issues?

Many believe they can't afford to address ergonomic issues in their facility. The reality, in most cases, is that they can't afford NOT to address ergonomic issues. Ergonomic hazards are estimated to account for about 40% of the Workers' Compensation claims paid in Michigan in 2006 and 2007.

Effective ergonomic programs will actually save or even make money by decreasing workers' compensation claims and/or insurance premiums; increasing productivity, quality, and moral; and potentially decreasing the generation of scrap and waste. By preventing ergonomic injuries and illnesses the net result will include reductions in employee absenteeism and turnover. How much does it cost to hire and train a new employee? The overall benefits of ergonomic programs far outweigh the costs especially when the pain and suffering of employees is taken into consideration. Many times ergonomic injuries and illnesses are much more painful and take much longer to recover from than other injuries or illnesses.

Robert Bosch LLC in St. Joseph, Michigan is an example of a win-win when it comes to ergonomics. In a letter to MIOSHA they stated, "Bosch has taken the matter of ergonomics seriously in an effort to preserve the company's human capital, while simultaneously improving operator abilities to produce quality products and provide quality services to it's customers...a number of projects have exemplified continuous improvement in our manufacturing processes, and this effort has had a positive impact on reducing musculoskeletal injuries and incidences of repetitive trauma...As a result of our efforts, the OSHA log for the St. Joseph, Michigan plant indicates a **46% reduction in recorded incidences** involving musculoskeletal injuries and incidences of repetitive trauma from 2006 to 2007...**Workers compensation costs for the plant dropped 80% from 2006 through 2007.**"

Another example of savings that can be achieved by implementing an ergonomic program is **Lacks Enterprises in Grand Rapids, Michigan**. Lacks, a supplier of automotive, electronics and telecommunications products, started with a pilot program and expanded to a corporate-wide effort to reduce Cumulative Trauma Disorders (CTD). The program included both equipment design changes and employee training. Since implementation in 1997, Lacks has reduced CTD claims by over 93%, which translates to healthier employees and about \$900,000 in annual savings for the corporation.

Are there any MIOSHA Standards that cover Ergonomics?

Not directly! While MIOSHA does not currently have an ergonomic enforcement standard, our agency has the authority to enforce Section 408.1011(a) [the general duty clause] of Act 154, Michigan Public Acts of 1974, as amended, when necessary to prevent work-related ergonomic injuries or illnesses. Click on the hyperlink to quickly access the general duty clause found in Michigan Public Act 154 on-line. [MIOSHA General Duty Clause](#). In addition, MIOSHA has an enforcement instruction, [Ergonomic Instruction](#), which details the procedures compliance officers follow when conducting ergonomic investigations.

How can I get more information?

More information is available from the MIOSHA Consultation Education and Training Division at (517) 322-1809 or on-line at www.michigan.gov/cet.

There is a considerable amount of information on ergonomics including industry specific help on the Federal OSHA website at [OSHA Ergonomics](#)

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