

Colorado State University Ergonomics Procedure

Introduction

Colorado State University has implemented an ergonomics program in order to decrease work related injuries experienced by its employees as well as to improve the overall health and safety of all faculty and staff members by reducing and/or eliminating risk factors for injury. This is done by identifying specific risk factors and their cause through analysis and evaluation of specific work tasks and workstation setups.

Ergonomics

Ergonomics is defined as the study of work. It can also be described as fitting the job to the person rather than forcing the person to fit the job. It is the scientific discipline concerned with the understanding of the interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.

Ergonomic Stressors/Ergonomic Hazards

Any condition that poses a biomechanical stress on the human body associated with an increased risk for developing musculoskeletal disorders.

Musculoskeletal Disorder (MSDs)

Musculoskeletal disorders (MSDs) are disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs. MSDs do not include disorders caused by slips, trips, falls, motor vehicle accidents, or other similar accidents. Examples of MSDs include: Carpal tunnel syndrome, Rotator cuff syndrome, De Quervain's disease, Trigger finger, Sciatica, Epicondylitis, Tendinitis, Raynaud's phenomenon, Carpet layers knee, Herniated spinal disc, and lower back pain in addition to others. Work-related MSDs are a major component of the cost of work-related illness in the United States. Each of these disorders can vary in their severity from mild, periodic symptoms to severe, chronic and debilitating conditions.

Work-related Musculoskeletal Disorder Hazard (WMSD Hazard)

Work activities and/or work conditions (such as job tasks, workstation design, etc.) where ergonomic stressors/hazards are present that are reasonably likely to cause or contribute to an MSD are considered WMSD Hazards.

Risk Factors

Any/all workplace designs or job tasks have the ability to create ergonomic risk factors or stressors. These risk factors can lead to work-related injuries which include but are not limited to the following:

- Repetition - Is the number of motions or movements that are performed per cycle or per shift.
- Force - Is the muscles used to produce force in order to perform necessary activities such as lifting, grasping, pinching, pushing, etc.
- Awkward Postures - Is when muscles are required to work at a level near or at their maximum capacity.
- Static Postures – A special type of awkward posture which occurs when a body part is not moving, but is still doing work. Examples include sitting in a chair or holding an object.
- Contact stress - Is the pressure from resting part of the body against a sharp edge or corner. Resting the wrists or forearms on the edge of a desk while typing is one example.
- Vibration – Exposure to local vibration occurs when a specific part of the body comes in contact with a vibrating object, such as a power handtool. Exposure to whole-body vibration can occur while standing or sitting in vibrating environments or objects, such as when operating heavy-duty vehicles or large machinery.
- Cold Temperatures - Reduce the natural elasticity of the body and reduce the sensation of touch (tactile feedback). In order to get the same amount of tactile feedback, an employee may exert more force than is necessary.
- Hot Temperatures – Greater stress is placed on the body when it is forced to work to maintain body temperature. When temperatures rise too high for the body to regulate itself, heat stress and heat stroke occur. These can be debilitating or fatal conditions, though they are extremely unlikely in the majority of situations an employee may encounter.
- Insufficient recovery – When strain is placed on the body, even from sitting at a computer workstation, the body requires time to relax and recover from that strain. If this time is not long enough, the strain can lead to a cumulative trauma disorder.
- Psychosocial – Other stressors in life such as depression, happiness etc, the overall mental state of an employee, will affect how they respond to stressors of the workplace.

Musculoskeletal Disorders Signs and Symptoms

MSD signs and symptoms vary depending on the job task and the person performing the task. These signs and symptoms are warning signs that an ergonomic stressor may be present. Symptoms that may be experienced are not to be ignored and should be taken seriously. MSD signs and symptoms can be but are not limited to:

- Numbness
- Aching
- Tightness
- Tingling
- Swelling
- Pain/Discomfort
- Stiffness
- Redness
- Loss of color
- Weakness

Ergonomic Intervention

When an ergonomic hazard has been identified whether by the employee, manager, supervisor, director, or ergonomic coordinator/specialist, etc. the office of Risk Management Ergonomics Team will work with the department and employee to eliminate or reduce the cause of the ergonomic hazard in order to reduce the chance for injury for existing or future employees.

There are two general approaches to controlling ergonomic hazards: Engineering and Administrative.

Engineering Controls - Changes made to the workstations, tools, and/or machinery that modify the physical make up of the area or process. This may include, but is not limited to, implementing a scissors lift table, hoist system, conveyor belt, ergonomic pipette, carts or other devices or pieces of equipment to the work environment.

Administrative Controls - Changes made to reduce exposure without making physical changes to the area or process. This may include taking frequent breaks and/or job rotations. Moving workers from one area to the next can help reduce fatigue and stress on the body and help reduce injury risk. Engineering controls are preferred as their goal is to reduce the presence of hazards rather than to adjust the employee around the hazards. Administrative controls can be used in combination with others but should not be used as the only control for an ergonomic hazard.

Responsibilities

All new or existing employees who have not had an ergonomic evaluation (job site analysis) or attended ergonomics training are recommended to do so as soon as possible. All faculty and staff members are eligible and encouraged to request an ergonomic evaluation and/or attend training sessions on ergonomics, as well as follow proper work practices and procedures.

Departments are responsible for providing sufficient resources to implement ergonomic recommendations in a timely manner (if feasible), as well as ensuring that employees are properly trained.

The Risk Management Ergonomics Team is responsible for providing ergonomic evaluations, training and monitoring of the entire ergonomics program. This includes evaluating risk factors identified and the cause of the ergonomic problem or hazard on the job, providing recommendations to eliminate, reduce or control the hazards and continuously striving to improve and support the program.

Medical Management

In the event that an employee is experiencing any signs or symptoms of MSDs, the employee should immediately report their symptoms to their supervisor. An ergonomic evaluation can be requested by contacting the Ergonomics Team. Should the employee feel that they need medical treatment, they should follow the appropriate steps in filing a First Report of Injury via CSU's Workers' Compensation online report: www.ehs.colostate.edu/WWorkComp

Prevention

A workers' compensation claim does not necessarily need to be filed to receive an ergonomic evaluation. If an employee feels that a workstation, equipment used, job task, etc. is harmful even before symptoms occur, they are encouraged to seek an ergonomic evaluation in order to prevent the onset of symptoms or simply to rule out the existence of risk factors or hazards apparent in the job. www.ehs.colostate.edu/ergonomics

Training

The Risk Management Ergonomics Team can provide ergonomics training on a regular basis. Ergonomics training includes, but is not limited to: definition of ergonomics, risk factors for injury, types of MSDs, symptoms of MSDs, reporting, proper equipment and workstation setup and work practice controls. Department specific ergonomic training programs/sessions will be provided to a department upon request. As high risk jobs present themselves, the Risk Management Ergonomics Team may also incorporate training sessions to specific departments in order to reduce and control risks and prevent onset of work related discomfort and injury.

Assistance

All employees, supervisors, directors, or department heads are encouraged to request an ergonomic evaluation of work environments, workstations or work processes by contacting the Risk Management Ergonomics Team at 491-6745. This also includes requests for training sessions/programs. The Ergonomics Team will provide an ergonomic evaluation and documentation of the evaluation, which includes, but is not limited to: injury risk factors or concerns, as well as recommendations to help eliminate any ergonomic hazards. Recommendations/changes that are made may or may not have an associated cost, which is the sole responsibility of the department. This documentation will be provided to the employee and any other personnel as it is deemed necessary by Risk Management's Ergonomics Team.

Matching Funds

The CSU Ergonomics Program offers potential funding of 50% of total equipment cost in matching funds to modify existing work environments and/or workstations. The program aims to provide departments with a cost effective method of injury prevention. Matching funds can be requested by any department or employee, as long as the request is made to ergonomically improve a work environment or to eliminate an identified ergonomic hazard. The department or employee must demonstrate a need for the ergonomic equipment, as well as justify the request for financial assistance. See the Ergonomics website for additional information and matching funds criteria.

Please contact the Ergonomics Team with any questions or concerns.

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