OSHA Directives
CPL 2.78 - Regional Ergonomics Program

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- **Directive Number:** CPL 2.78
- **Subject:** Regional Ergonomics Program
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OSHA Instruction CPL 2.78 FEB 9 1987 Directorate of Technical Support

SUBJECT: Regional Ergonomics Program

A. Purpose. This instruction republishes OSHA Notice CPL 2, May 12, 1986, which provided direction and established goals for use by OSHA personnel in the development of an ergonomics program for technical assistance as well as broad guidelines to be followed while conducting ergonomically related enforcement activities at the workplace. The contents of the notice have not been changed.

B. Scope. This instruction shall apply OSHA-wide.

C. Action. OSHA National Office Directors, Regional Administrators and Area Directors shall ensure that the procedures set forth in sections G. through I. of this instruction are followed.

D. Federal Program Change. This instruction describes a Federal program change which affects State programs. Each Regional Administrator shall:

1. Ensure that this change is promptly forwarded to each State designee.

2. Encourage State adoption of a similar initiative and explain the content of this change to the State designee as requested.

3. Ensure that State designees are asked to acknowledge receipt of this Federal instruction in writing, within 30 days of notification, to the Regional Administrator if they have not already responded to the OSHA Notice which this instruction republishes. This acknowledgment should indicate whether the State chooses to adopt the change and, if so, a description of the State's plan to implement the change.

a. If a State intends to follow the requirements and procedures outlined in this instruction

(adapted as appropriate to the State's organizational structure, standards and staff training needs), only a written indication of intent is needed.

b. Any alternate requirements and procedures must be submitted as a State plan supplement within 6 months.

E. 7(c)(1) Consultation Programs. Regional Administrators shall forward a copy of this instruction to each consultation project manager.

1. The technical content of the instruction shall be explained as requested.

2. Consultation project managers shall ensure that all appropriate requirements and procedures are adhered to by consultation program personnel. Routine monitoring activities shall be used to determine whether this instruction is being implemented.

F. Background. OSHA's mandate is to ensure that employers provide a safe and healthful workplace. Traditionally the agency has sought to accomplish this objective primarily through compliance inspections. However, no specific standards exist for ergonomic hazards at present. This in turn reduces the ability of the conventional approach to identify and seek reduction of these hazards. Thus, to reduce the incidence of these ergonomic problems alternative strategies must be employed.

1. Although musculoskeletal disorders account for few work-related deaths, they do account for a significant amount of human suffering, loss of productivity, and economic burden on compensation systems. For example, data from government sources indicate:

a. Musculoskeletal disorders rank first among health problems affecting the quality of life, as measured by the extent to which they cause significant limitation of activity (NCHS, HIS, 1977).

b. Musculoskeletal disorders are the leading cause of disability of people in their working years, afflicting 19 million (NCHS, HIS, 1977). High

OSHA Instruction CPL 2.78 FEB 9 1987 Directorate of Technical Support

risk industries include manufacturing, construction and food processing. Nearly one-half of the nation's work force is affected at some time during their working lives.

c. Musculoskeletal disorders also represent a significant accessory or causal factor in a large number of acute traumatic injuries.

d. The cost of musculoskeletal disorders, based on lost earnings and worker compensation payments, exceeds that of any single health disorder. Back problems alone cost American industry an estimated 16 billion dollars per year.

e. Musculoskeletal disorders, such as inflamed joints or sprains/strains, account for one-third of annual worker compensation claims. Sprains and strains are most prevalent, with the back accounting for almost 50 percent of such disorders, followed by disorders of the ankle, knee, and shoulder.

f. The frequency and impact of musculoskeletal conditions on the work force are expected to increase over the next several decades as the average age of the work force increases.

2. The projected increase in musculoskeletal disorders is already evident despite the move towards more sophisticated automation and the shift toward non-physical work.

a. The new technology has increased the incidence of such ergonomic problems as chronic repetitive motion and static and constrained postures. (See Appendix A for available strategies to address these ergonomic problems.)

b. The introduction of modern office technology designed to reduce physical labor, such as computers, VDTs, and optical scanners has generated new and pervasive sources of biomechanical stress to the musculoskeletal system.

G. Technical Assistance. In response to this situation, the agency has decided to implement a measured response.

1. National Office Ergonomist. An ergonomist has been assigned to the staff of the Director of Technical Support. He shall serve as agency expert on all ergonomic issues.

2. Regional Office Ergonomist. Regional Administrators shall appoint a Regional coordinator for ergonomic matters within the Regional technical support staff. This staff person shall serve as the Regional contact on ergonomics matters and shall disseminate relevant ergonomic material to the Area Offices and provide technical assistance to the State designees in the Region.

3. Area Office Outreach Element. The Regional Administrator shall ensure that each Area Director:

a. Includes an ergonomic sector in the Area Office Outreach Program Plan, developed in accordance with the Field Operations Manual (FOM), Chapter I, F.

b. Receives the support necessary to maintain local ergonomic programs. c. Handles such programs in accordance with the guidelines for full-service activities as found in the FOM.

4. 7(c)(1) Consultation Project Ergonomist. The Regional Administrator shall ensure that a contact for ergonomic matters is identified in each consultation program office. This person shall serve as the programs specialist on ergonomics and as liaison with the Regional Office ergonomist.

H. Training and Education of OSHA Personnel. It is essential that an adequate number of CSHOs and consultants be trained in the ergonomic method to recognize and deal with workplace ergonomic hazards.

1. The OSHA Institute currently offers a course which specifically deals with the major topics of ergonomics, including repetitive motion disorders, manual lifting and back injuries, vibration, temperature stress and work station design. Additionally the Institute will shortly offer a separate course devoted to the problem of workplace back injuries.

2. Each Area Director shall plan for the training in ergonomics of at least one safety and one health CSHO to investigate ergonomically related complaints or to inspect workplaces likely to have high incidences of ergonomic injuries or illnesses and to serve as Area Office resource person. Such training shall be completed as soon as resources allow. Upon completion of this training, the Area Director shall inform the Regional Administrator and shall submit the names of the trained persons.

3. As resources permit, each consultation program manager shall ensure that at least one safety and one health consultant receive training in ergonomics. One of these individuals shall be the program's ergonomic contact.

4. The Director of Technical Support shall make the Directorate ergonomist available as far as resources permit when needed to assist with Regional and State training. Such needs shall be coordinated with the Director of Technical Support through the Director of Field Operations.

5. Each Area Director shall attempt to maintain an ergonomics section in the Area Office technical library.

I. Enforcement. In the course of conducting general schedule inspections, CSHOs shall be alert for high incidences of ergonomic disorders listed on the OSHA-200 Log. Additionally, employees may complain of musculoskeletal problems associated with specific tasks, and Area Offices may receive formal complaints pertaining to ergonomic matters.

1. In all cases where the Area Director decides to issue a 5(a)(1) citation for an ergonomic violation, the proposed citation shall be discussed with the Regional Administrator and cleared with the Regional Solicitor prior to issuance in accordance with the FOM, Chapter IV, A.2.f.(2).

2. A log of all ergonomic cases addressed in the field noting the hazard found and the steps taken by OSHA to address the hazard shall be kept by the Regional ergonomic coordinator. A Regional summary report shall be forwarded by the end of the first month

after the end of a fiscal quarter to the Director of Technical Support through the Director of Field Operations.

J. Onsite Consultations. The Consultation Program Manager shall ensure that in all onsite consultations involving ergonomic matters, employers are advised of good practices and possible OSHA requirements. A log of ergonomic cases without the employer's name shall be sent periodically to the Regional ergonomic coordinator.

John A. Pendergrass Assistant Secretary DISTRIBUTION: National, Regional and Area Offices All Compliance Officers State Designees 7(c)(1) Project Managers NIOSH Regional Program Directors

OSHA Instruction CPL 2.78 FEB 9 1987 Directorate of Technical Support

APPENDIX A

A. Causes of Musculoskeletal Disorders.

1. Although debate continues as to the causes of occupational musculoskeletal disorders, it is generally accepted that chronic exposure to physical stress serves to accelerate or aggravate the onset and course of musculoskeletal disorders.

a. The sources of the physical stress can often be traced to ordinary work activities that include repetitive or sustained lifting, bending, twisting, reaching, gripping, pinching, rubbing, kneeling and squatting.

b. When the job demands inherent in these activities repeatedly exceed the biomechanical capacity of the worker, the activities become trauma-inducing.

2. Recognition of the stressful nature of these activities has a practical, problem-solving focus.

a. Recommended interventions for reducing musculoskeletal disorders should involve an engineering approach; i.e., redesigning the work process or tool to impose less biomechanical stress.

b. In the absence of complete information on causes, assumptions can reasonably be based on biomechanical models of physical trauma. When these assumptions are made, answers to problems are tested by judging both their feasibility and effectiveness.

c. Information is already available from ergonomics and allied fields to suggest that a majority of the biomechanical hazards responsible for occupational musculoskeletal disorders could be eliminated if feasible engineering solutions were put into practice.

B. Intervention Strategies to Reduce the Incidence of Musculoskeletal Disorders at the Work Place.

1. Awareness Strategy. Prevention requires a knowledge of the circumstances surrounding environmental hazards as well as any predisposing biological or behavioral factors that may influence the capacity of a worker to perform the job in a safe and healthful manner.

a. For this reason the most fundamental strategy is to promote workplace education and awareness programs aimed at the maintenance of musculoskeletal health and the prevention of injuries.

b. Aspects of this strategy include education of compliance officers, workers, management, engineers and medical support personnel in identifying sources of biomechanical stress and associated musculoskeletal disorders at the workplace.

2. Intervention Strategy. Concurrent with an awareness strategy is the need to promote specific control actions. The following three-tiered intervention strategy is proposed for the prevention of musculoskeletal disorders:

a. Selection and Placement of Workers in Jobs. Worker selection and placement is a process by which a workforce is selected and maintained by application of medical criteria, and/or performance criteria.

(1) The criteria are used to identify individuals with health conditions or work capacities, such as reduced strength that would increase their risk of personal injury if assigned to a job.

(2) To prevent abuse of such placement procedures it is necessary to identify the high-risk jobs and quantify the required job-demands. Workers are matched to jobs as a function of the specific job demands and worker capacities.

(3) This effort draws on the skills of an ergonomist for evaluating job demands. In addition, clinical experience in human physiology and performance assessment is needed for evaluating worker capacities.

b. Training of Workers to Use Safe Work Practices. Training may also be used as an intervention technique for controlling workplace injuries and illnesses.

(1) Training programs range from fundamental instruction on the proper use of tools and materials, to instructions on emergency procedures, and use of protective devices.

(2) More comprehensive training programs are being developed to prepare the worker to participate in a broader range of worksite safety and health activities.

(3) Programs designed to broaden the worker's involvement include training in hazard identification, including observing and reporting hazards, and participation in plant-wide control programs.

c. Ergonomic Redesign of Tools, Task and Work Station. The third intervention strategy uses principles of ergonomics to control workplace hazards through the redesign of work methods and tools.

(1) Ergonomics is a discipline which recognizes the physiological, anatomical, and psychological capabilities and limitations of people with respect to their work tasks, equipment used, and the job environment.

(2) The goal of ergonomics is to establish a best fit between the human and imposed job conditions to ensure and enhance worker health, safety, and comfort as well as productivity.

(3) Moreover, the "best fit" can be achieved by focusing on job and tool redesign, rather than worker training or selection.

(4) Hence, prevention is achieved with the ergonomic approach as a natural result of the worker experiencing improved work postures, reduced forces and fewer repetitions as a function of job redesign.

3. Ergonomic Approach Is Most Effective. The ergonomic approach to work place design must be recognized as the most effective and is the first choice for controlling sources of workplace

stress. Administrative controls, such as employee selection and training should not be viewed as primary methods of control. There are a number of reasons for this priority.

a. First, unlike employee selection and training, which require that each new employee be evaluated and instructed and thereafter monitored to determine changes in capacity and compliance with the training procedures, jobs and tools that are ergonomically redesigned are relatively permanent and, once implemented, do not normally require modification for each new employee.

b. Secondly, employee screening and selection techniques by nature distinguishes between those who are considered fit for the job and those who are not. Fitness for a job must be based on actual job demands which are often difficult to assess. Caution must be exercised that selection procedures are specific to the job and avoid the general criteria of selecting only the strongest or youngest workers.

c. Third, although training programs are a necessary and significant part of the intervention strategy, they require each new employee be instructed and thereafter monitored to determine compliance with training instructions. This can be more costly and less positive than engineering controls if used as the primary means of intervention.