APPENDIX C: MEDICAL MANAGEMENT GUIDELINES

Introduction

Access to Health Care Providers

Job Familiarity

Health Care Provider Assessment

- History
- Physical Examination
- Diagnosis/Assessment

Treatment

- (1) Reduction of Exposure to Workplace Risk Factors
  - a) Modifying Present Job
  - b) Temporary Job Transfer
  - c) Complete Removal from the Work Environment
- (2) Other Treatment
  - a) Immobilization Devices
  - b) Assessment and Reduction of Other Activities Outside of Work

Written Musculoskeletal Disorder Management Plan

Periodic Follow-up Evaluations

Attachment 1.A.: Sample History of Present Illness Recording Form

Attachment 1.B.: Example of Completed History of Present Illness Recording Form

Attachment 2: Physical Examination Recording Form for the Neck and Upper

Extremity

Attachment 3.A.: Sample Musculoskeletal Disorder Management Plan

Attachment 3.B.: Example of Completed Musculoskeletal Disorder Management Plan

Table 1: Decision Logic for Musculoskeletal Disorder Management Plan

Appendix C: Medical management guidelines

Introduction

This appendix serves as a general guidance document for employers and health care providers to provide medical management for employees with work-related musculoskeletal disorders as specified in the standard. Nothing in the standard, or in this appendix, supersedes or in any manner affects any workers' compensation law, or enlarges, diminishes, or affects in any other manner the common law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment.

Additionally, this appendix does not prescribe specific medical treatments or dictate when an injured worker can return to work. Rather, it provides general guidelines that the health care provider and

the employer should use in structuring appropriate medical management for the affected employee.

An assumption is made in this appendix that in most workplaces, the employer is contracting for the services of a health care provider who is not located in the workplace. However, the information and guidance in this appendix also applies to workplaces with on-site health care providers.

Regardless of where the health care provider is located, where workers' compensation law gives the employer the authority to select the health care provider, the employer is responsible for selecting health care providers who are knowledgeable in the assessment and treatment of work-related musculoskeletal disorders. Criteria or considerations for the employer to use in selecting a knowledgeable health care provider include:

* Specialized training and experience in ergonomics and the treatment of work-related musculoskeletal disorders;
* Current working knowledge of the worksite and the specific industry;
* Willingness to periodically tour the worksite;
* Willingness to communicate with the employer and employees

(Louis, 1987, Journal of Hand Surgery; and Haig, et.al., 1990, Journal of Occupational Medicine);

* Willingness to consider conservative therapy prior to surgery; and

* History of successful treatment of work-related musculoskeletal disorders.

(Reference ACOEM survey results dated August 9, 1994; AAOHN survey results dated August 31, 1994; and AOEC survey results dated September 30, 1994)

For the purposes of this standard, the term "musculoskeletal disorder" refers to any of the following when they are caused or aggravated by exposure to risk factors in the workplace and are not the result of acute or instantaneous events (e.g., slips or falls): clinically diagnosed musculoskeletal disorders, objective signs (e.g., swelling), or persistent symptoms. A persistent symptom is defined in the standard as a symptom which has persisted for at least 7 calendar days from onset, or is interfering with the employee's ability to perform the job.

The goals of medical management are to:

1) Reduce or eliminate musculoskeletal symptoms and

conditions associated with work-related risk factors;

2) Prevent, eliminate, or reduce duration and severity of functional impairment from these symptoms or conditions; and

3) Prevent, eliminate, or reduce duration and severity of disability associated with these symptoms or conditions.

Under this standard, the primary effort of the employer must be primary prevention - to reduce or eliminate workplace risk factors, and to detect problem jobs before the risk factors lead to symptoms and the need for medical treatment. Workplace risk factors include, but are not limited to: repetitive, forceful or prolonged exertions; frequent or heavy lifting; pushing, pulling or carrying of heavy objects; a fixed or awkward work posture; contact stress; localized or whole-body vibration; and cold temperatures. These workplace risk factors can be intensified by work organization characteristics, such as inadequate work-rest cycles, excessive work pace and/or duration, unaccustomed work, lack of task variability, machine-paced work and piece rate.

In contrast, medical management focuses on the prevention of functional impairment and disability in a symptomatic employee who presents for medical care. In these situations, where medical management is needed, this appendix serves as a guide.

Currently there is no scientific evidence that validates the use of pre-assignment medical examinations, job simulation tests or other screening tests as a valid predictor of which employees are likely to develop musculoskeletal disorders (Frymoyer, J.W., 1992, Bailliere's Clinical Rheumatology; Werner, R.A., et.al., 1994, Arch Phys Med Rehabil; Cohen, J.E., et.al., 1994, Journal of Occupational Medicine). While OSHA is aware that some of these tests may currently be used, at this time OSHA does not support or encourage their use. OSHA has not approved any of these musculoskeletal disorder screening tests. In addition, no pre-assignment screening tests or initial medical examinations are required in this standard (Franzblau, A., et.al., 1993, Journal of Occupational Rehabilitation).

Access to Health Care Providers

The standard specifies that the employer make available an assessment to an employee at the earliest possible date but no later than 5 work days after the signs or persistent symptoms of a work-related musculoskeletal disorder are reported. A persistent symptom

is defined in the standard as a symptom which has persisted for at least 7 calendar days from onset, or is interfering with the employee's ability to perform the job. This is not meant to imply that employers should wait 7 calendar days from onset of the employee's symptoms before referring the employee to a health care provider. There are foreseeable circumstances where immediate evaluation by a health care provider would be warranted. For example, an employee who reports to the supervisor that he/she is experiencing severe low back pain with numbness and tingling radiating down his/her leg, an inability to sleep due to the pain and obvious difficulty walking should immediately be referred to the health care provider. Or, an employee may describe symptoms that have been present for three weeks at the time he or she reports symptoms. This employee must be referred to a health care provider at the time of initial reporting. Furthermore, referral prior to 7 calendar days is prudent since early intervention is usually more effective than late intervention (Ryan, 1985, The Australian Secretary; and Ranney, 1993, Ergonomics; Kiefhaber, T.R. and Stern, P.J., 1992, Clinics in Sports Medicine; Day, 1987, Seminars in Occupational Medicine; Kaplan, S.J., et.al., 1990, Journal of Hand Surgery (British Volume); Kruger, V.L., et.al., 1991, Arch Phys Med Rehabil; Gelberman, R.H., et.al., 1980, The Journal of Bone and Joint Surgery; Frymoyer, J.W., 1992, Bailliere's Clinical Rheumatology).

Where health care providers are available at the workplace, an initial assessment should be performed and documented in the employee's medical record at the time the employee reports symptoms.

The standard also specifies that assessment and treatment be performed by a person educated and trained in the delivery of health care services who is operating within the scope of their license, registration, certification, or legally authorized practice. The scope of practice of health care providers varies from state to state. It is imperative, therefore, that the legal scope of practice unique to each state be considered prior to any decision to hire or contract for services.

Job Familiarity

The employer is required by the standard to establish a contact person(s) who is familiar with the jobs and risk factors in the workplace to communicate with the health care provider. The contact person is required to communicate and coordinate with the health care provider so that appropriate job placement of the employee occurs during the recovery period.

At the time of the initial assessment, the employer must ensure that

the health care provider has the name and telephone number of the contact person for the workplace, a copy of the medical management section from the regulatory text of the standard, and the risk factor checklist for the employee's job, or other materials that describe the job and workplace risk factors. The employer is required to complete a risk factor checklist for any employee who reports a work-related musculoskeletal disorder and for each employee in a job with daily exposure during the workshift to certain specified risk factors.

The checklist is a quick screening tool for identifying workplace risk factors that can cause or aggravate musculoskeletal disorders and the approximate duration of exposure to each risk factor. These workplace risk factors are briefly described on the checklist form. The checklist is used by the employer to determine which jobs must be further analyzed or changed to reduce risk of neck, upper limb, lower limb and back disorders at work. It can be used by the health care provider to understand the general conditions of the job. In some cases, the checklist may not be specific enough to determine whether the job is appropriate for restricting specific muscle-tendon use during the recovery period. (Note: For more detail on the risk factor checklist, the health care provider should ask the employer's contact person for a copy of Appendix A of the standard.)

The contact person should also furnish the health care provider with job descriptions and relevant visuals which will familiarize the health care provider with the specific requirements of the employee's regular job. In addition, employers shall provide health care providers with the opportunity to conduct periodic walkthroughs of the workplace in order to become familiar with the employer's jobs and the risk factors present (Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapter 35).

Walkthroughs allow the health care provider to:

1) Gain insight and remain knowledgeable about operations and work practices;

2) Participate in the identification of potential restricted duty jobs;

3) Maintain close contact with the employee; and

4) Make more informed decisions about work placement.

Where a walkthrough is not possible, or until one can be scheduled, the health care provider can gain valuable information through the employee's risk factor checklist and detailed job descriptions, job analyses, and visuals, such as photographs or videotapes

accompanied by descriptions or narrations. This information will supplement a careful occupational history obtained from the employee.

Health Care Provider Assessment

The standard requires that the assessment include at least a relevant occupational and health history and a physical examination and tests appropriate to the reported signs or symptoms (Putz-Anderson, 1988, Cumulative Trauma Disorders. A Manual for Musculoskeletal Diseases of the Upper Limbs, Chapter 6 and Appendix B). Specific attention should be paid to the following:

History:

History of present illness, with particular attention to:

- characterization of symptoms as to onset, location, symptom quality, radiation, intensity, duration and frequency
- history of the course of the condition including the job the employee was performing when symptoms were first noticed (prior job if recently changed jobs), the amount of

time spent on that job, and jobs or tasks that exacerbate symptoms

- history of prior or current treatments

Medical history, with particular attention to:

- systemic illnesses or conditions
- history of trauma, with particular attention to the affected body part
- prior musculoskeletal condition to same, adjacent, or other body part
- recreational activities

Employee description of job activities:

- characterization of required tasks with respect to known workplace risk factors for musculoskeletal disorders and duration of the exposure, such as hours per day, days per week and shift work. Workplace risk factors include repetitive, forceful or prolonged exertions; frequent or heavy lifting or lifting in awkward postures (e.g. twisting, trunk flexion or lateral bending); pushing, pulling or carrying of heavy objects; a fixed or awkward work posture; contact stress; localized or whole-body vibration; cold temperatures, and others;

- any recent changes in the job, such as longer hours, increased pace, new tasks or equipment, or new work methods which may have caused the current illness.

See attachment 1.A. for a sample history form and attachment 1.B. for an example of a completed history form.

Physical Examination:

The standard requires that the physical examination include at least inspection, palpation and range of motion. The examination should also include evaluation of sensory, motor and reflex function, and any applicable provocative testing. Attachment 2 is a suggested recording form for the examination of the neck and upper extremity.

Diagnosis/Assessment:

For each employee referred for an assessment, the health care provider should make a specific diagnosis consistent with the current International Classification of Diseases or the health care provider should summarize the findings of their assessment.

Terms such as "repetitive motion disorder", "cumulative trauma disorder", and "overuse syndrome" should not be used as a substitute for a specific diagnosis or assessment. These terms are not diagnoses, but statements of causation (Ranney, 1993, Ergonomics).

Treatment:

A musculoskeletal disorder management plan should include both a plan for medical treatment and a plan for return to work. The medical treatment plan addresses issues such as anti-inflammatory medication, physical therapy and occupational therapy. The return to work plan addresses issues such as whether restrictions are needed during the recovery period and how long they will be needed. The employer has a contact person who is knowledgeable about the employee's job requirements and their associated risk factors. The contact person is responsible for communicating and coordinating with the health care provider so that appropriate job placement of the employee occurs during the recovery period (Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapters 34 and 35). Written plans ensure that the health care

provider, the employee, and the employer all understand the steps recommended to promote recovery, and ensures that the employer understands what his or her responsibility is for returning the employee to work. (See the "Written Musculoskeletal Disorder Management Plan" section below for more discussion of the written plan.)

(1) Reduction of Exposure to Workplace Risk Factors:

Reduction of exposure to workplace risk factors that cause or contribute to musculoskeletal disorders is a mainstay of successful treatment of these disorders and is the most effective way to rest the symptomatic area (Upfal, 1994, Occupational Hazards). The standard requires the employer to review the employee's job with regard to risk factor exposures when the employee is referred for the initial assessment by the health care provider. Where required by the standard, the employer must implement control measures which reduce or prevent employee exposure to the identified workplace risk factors. The discussion that follows will highlight current expert opinion on principles for reduction of exposure.

Reduction in exposure to risk factors on the job during the

recovery period can be achieved by placing restrictions on the employee, thereby limiting the manner in which an employee performs a job or work tasks. This may be accomplished by modifying the present job, by temporary job transfer, or by complete removal from work. Training or retraining of the employee on work methods, such as the proper method of keying at a video display unit to avoid hyperextension of the wrists, will supplement other exposure reduction modalities (Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapter 33). The health care provider is responsible for determining the appropriate restrictions of the affected employee during the recovery period. The employer's contact person is responsible for working with the health care provider to ensure that any medical restrictions are taken into account in job modification or transfer (Upfal, 1994, Occupational Hazards).

A variety of factors determine the length of time an employee is placed on restrictions. These include specific diagnosis, severity of the disorder, duration and frequency of symptoms, response to treatment, the frequency and duration of exposure to relevant risk factors involved in the original job, and how quickly that

original job can be changed, if necessary.

a) Modifying Present Job

Modifying the present job to reduce risk factors is the preferable option. Modified duty allows the employee to remain in his or her present job, but limits physical stresses on the symptomatic area. Examples of modified duty include performing a job at a reduced speed, performing only some of the job tasks or limiting the number of hours per day the employee performs certain job tasks.

b) Temporary Job Transfer

Employee exposure to workplace risk factors can be reduced through temporary job transfer. The new job should be carefully assessed by the employer in collaboration with the health care provider to be sure that the symptomatic area will not be exposed to relevant risk factors. If the employee is removed from a job requiring high force or high repetitions, the health care provider should consider a gradual reentry phase back into that job.

c) Complete Removal from the Work Environment

Complete removal from the work environment should generally be reserved for severe conditions and in workplaces where the only available jobs have risk factors which would adversely impact recovery of the symptomatic area. Research has documented that the longer the employee is off work, the less likely he/she is to return (Vallfors, 1985, Scandinavian Journal of Rehabilitation Medicine; Upfal, 1994, Occupational Hazards; Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapters 34 and 35).

(2) Other Treatment:

While reduction of exposure to risk factors should be combined with appropriate medical treatment, minimal guidance is provided here concerning specific medical treatment, including use of analgesia, occupational and physical therapy, anti-inflammation medication, or surgery. The health care provider is expected to provide these therapeutics on the basis of best available knowledge at the time that care is provided and to closely monitor the employee's progress to evaluate

effectiveness of the prescribed treatment.

It must be noted that the effectiveness of Vitamin B-6 for treatment of musculoskeletal disorders has not been established (Stransky, et.al, 1989, Southern Medical Journal; Spooner, et.al, 1993, Canadian Family Physician). Additionally, at this time there is no scientifically valid research that establishes the effectiveness of Vitamin B-6, anti-inflammatory medications such as aspirin, hot wax, or immobilization devices worn on or attached to the wrist or back as effective methods for **preventing** the occurrence of musculoskeletal disorders. Exercises that involve stressful motions or an extreme range of motions, or that reduce rest periods, may be harmful.

a) Immobilization Devices

Immobilization devices, such as splints or supports, may help rest the symptomatic area during sleep. Immobilization devices should be prescribed judiciously and monitored carefully (Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapter 33). Prolonged use may cause muscle atrophy. It should be noted that wearing flexible wrist splints during rest or

repetitive work activities does limit range of motion but has no significant effect on carpal tunnel pressure (Rempel et al, 1994 Journal of Hand Surgery).

Under most circumstances, wrist splints should not be worn at work for the treatment of musculoskeletal disorders. Struggling against a splint can exacerbate the medical condition due to the increased force needed to overcome the splint. Working with a splint may also cause other joint areas, such as the elbow and shoulder, to be exposed to additional risk factors and to become symptomatic. If a wrist splint is prescribed to be worn at work during the recovery period, the health care provider should ensure that the splint is properly fitted and that work restrictions are appropriately assigned to ensure that the employee is not struggling against the splint.

The prophylactic use of devices worn on or attached to the wrist or back is not recommended. (Reference letter from AOTA dated October 31, 1994; letter from ACOEM dated November 3, 1994; Memorandum from ASHT dated December 20, 1994) In fact, devices worn on or attached

to the wrist or back are not considered personal protective equipment in the standard. Wrist splints have not been found to prevent distal upper extremity musculoskeletal disorders, and may cause the onset of symptoms in an employee who uses them under the conditions described above (Rempel, 1994, Journal of Hand Surgery). At this time, there is no rigorous scientific evidence that back belts or back supports prevent injury, and their use is not recommended for prevention of low back problems (CDC/NIOSH, July 1994, "Workplace Use of Back Belts"; Upfal, 1994, Occupational Hazards; Mitchell, L.V., et.al., 1994, Journal of Occupational Medicine). Where the employee is allowed to use a device that is worn on or attached to the wrist or back, the employer, in conjunction with a health care provider, should inform each employee of the risks and potential health effects associated with their use in the workplace, and train each employee in the appropriate use of these devices (McGill, S.M., 1993, American Industrial Hygiene Journal).

b) Assessment and Reduction of Other Activities Outside of Work

The health care provider should also evaluate whether activities outside of work contribute to or aggravate the musculoskeletal disorder, and recommend modifications of those activities during the recovery period.

Written Musculoskeletal Disorder Management Plan

The employer is required by the standard to obtain from the health care provider a copy of the musculoskeletal disorder management plan as soon as possible but not later than 3 work days after each assessment until the employee is released from care. The employer is also required to ensure that the health care provider gives the affected employee a copy of the plan at the time of each assessment. To ensure medical confidentiality, the management plan shall not reveal specific findings or diagnoses unrelated to workplace exposure to risk factors.

At a minimum, the musculoskeletal disorder management plan shall include the results of the assessment, restrictions, and follow-up required. The health care provider should discuss the details of the plan with the employee at the time of the visit.

The health care provider, in developing these plans, should specify:

- diagnosis/assessment;

- the treatments to be used, including any treatment needed during work hours, and the frequency and duration;
- description of restricted work activity and duration (e.g., No lifting >10 pounds from below the knees for more than one hour in an 8-hour work shift until next appointment); and
- follow-up including the next appointment and other scheduled appointments.

The health care provider should communicate and collaborate with the employer's contact person to ensure that the employee's musculoskeletal disorder management plan is understood and to ensure proper job placement during the recovery period (Kasdan, Edit, 1991, Occupational Hand and Upper Extremity Injuries and Diseases, Chapters 34 and 35). The health care provider should return the employee to his/her original job when risk factor modification or appropriate treatment allows the employee to safely remain in that job (Johns, R.E., et.al., 1994, Journal of Occupational Medicine).

Table 1 outlines the decision logic the health care provider can use to establish the musculoskeletal disorder management plan. Attachment 3.A. is a sample musculoskeletal disorder management plan and attachment 3.B. is an example of a completed musculoskeletal disorder management plan.

Periodic Follow-Up Evaluations

Most musculoskeletal disorders improve with conservative management. Regardless of whether the employee has continued to work or has been completely removed from the work environment during the recovery period, primary health care providers should monitor the symptomatic employee to document improvement, or lack thereof, and re-evaluate the employee who has not improved. The timeframe for this follow-up depends on the symptom type, duration and severity. A clinical exam or telephone contact with the employee should be made once a week, followed by a complete re-evaluation within ten calendar days from the last examination if the employee's symptoms are not improving. Where health care providers are available at the workplace, monitoring of the symptomatic employee should occur every 3-5 working days depending on the clinical severity of the disorder, and the results of the assessment must be documented in the employee's medical record (Wiesel, S.W.,et.al., 1984, SPINE; Wiesel, S.W., et.al., 1994, Clinical Orthopaedics and Related Research).

TABLE 1

DECISION LOGIC FOR MUSCULOSKELETAL DISORDER MANAGEMENT PLAN

(1) Can the employee return to his/her current job without restrictions after this visit?

(2) If not, can the employee return to his/her current job with restrictions that reduce risk factors, such as:

- decreased pace of work
- increased rest time
- elimination of some of the elements of the work, (e.g., "No lifting over 10 pounds from below the knees for more than one hour in an 8 hour work shift," or " No use of a vibrating hand tool")

(3) If the first two options are not possible, either because of the severity of the condition or the specific requirements of the job, can the employee be moved to another job that reduces exposure to relevant risk factors? The health care provider should make recommendations regarding the restrictions of the employee and work with the employer's contact person to match these restrictions to a specific job.

(4) Is complete removal from work necessary?

(5) Once any restrictions are prescribed, what are the expected

lengths of time for these restrictions, and when will this plan be re-evaluated?