



Ames Procedural Requirements

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COMPLIANCE IS MANDATORY

Ames Health & Safety Manual

Chapter 36 - Ames Ergonomics Program

Table of Contents

36.1. Overview

36.2. Responsibilities

36.2.1. Safety, Health and Medical Services Division

36.2.2. Ames Health Unit

36.2.3. Supervisors

36.2.4. Employees

36.3. Training and Education

36.4. Workstation Evaluations

36.4.1. Ames Health Unit Evaluations

36.4.2. Preventive/Requested by Individual

36.5 Administrative Controls

36.6 Record Keeping

36.7. Computer Glasses Programs

36.7.1. Civil Servants

36.7.2. Contractors

36.8 Ergonomics Solution Team

36.9. Appendices

36.9.1. Appendix A: Office Ergonomics Evaluation Form

36.9.2. Appendix B: Ergonomic Evaluation/Supervisor Responsibility

36.9.3. Appendix C: Hand Tool Ergonomics

36.9.4. Appendix D: Manual Materials Handling

36.1. Overview

The goal of the Ames Ergonomics Program is to use sound ergonomic principles to reduce the number and severity of MSDs caused by exposure to risk factors in the workplace.

[\[Back to Table of Contents\]](#)

36.2. Responsibilities

36.2.1. Safety, Health and Medical Services Division

1. Evaluate individual workstations, as requested by management, the Ames Health Unit, and individual employees to determine ergonomic hazards.
2. Provide training and information about ergonomic issues to increase awareness of employees, supervisors, and managers.
3. Maintain records of workstation evaluations and ergonomics log.
4. Provide consultation on selection of furniture and equipment.
5. Assist supervisors, if necessary, in managing ergonomic concerns.
6. Evaluate program and its effectiveness periodically.

36.2.2. Ames Health Unit

1. Ames civil servants must be evaluated by an Ames Health Unit physician if they are experiencing pain or discomfort that is related to the work environment.
2. The Ames Health Unit physician will determine the appropriate medical treatment.
3. The Ames Health Unit will request a workstation evaluation from the Safety, Health and Medical Services Division if appropriate.
4. Civil Service employees will be instructed in Worker's Compensation procedures if a claim needs to be filed.
5. The Ames Health Unit will follow-up and manage individual employee cases.

36.2.3. Supervisors

1. Make clear to employees that they are to report any pain or discomfort related to their workstations to first line management.
2. Send any civil servant employee experiencing symptoms that may be related to the work environment to the Ames Health Unit for an evaluation.
3. Assure that employees are trained in ergonomics.
4. Correct ergonomic hazards in the workplace.
5. Provide appropriate personal protective equipment where needed.

36.2.4. Employees

Civil service and contractor employees must take responsibility for their own health and safety.

1. Attend ergonomics training; learn the signs and symptoms of MSDs.

2. Report persistent (2 week or longer) discomfort or pain associated with your job to your supervisor and the Ames Health Unit (civil servants).
3. Seek medical attention early.
4. Practice good posture and work habits to reduce ergonomic injuries.
5. Discuss your ergonomic concerns with your supervisor.
6. Use ergonomic PPE when required by a physician or your supervisor.

[\[Back to Table of Contents\]](#)

36.3. Training and Education

1. Ergonomics classes are offered regularly through the Safety, Health and Medical Services Division, and are available on SATERN (CBT). Employees can sign up electronically on the QH website, or by calling [REDACTED]. Special presentations and demonstrations may be scheduled upon request.
2. It is strongly recommended that employees take the Office Ergonomics class before requesting a workstation evaluation. This class should be repeated every three years.
3. The main goals of employee information and training are the following:
 - a. Recognition of the signs and symptoms related to MSDs and the importance of early reporting.
 - b. Awareness of MSD risk factors.
 - c. Awareness of safe work methods.
 - d. Awareness of Ames' methods to reduce MSDs.
 - e. Instruction on how to purchase ergonomic furniture and accessories.
4. Chair Exercise Classes are taught periodically at the Ames Fitness Center. These classes teach employees how to do simple stretches at their desks that can help reduce MSDs. Check the Fitness Center calendar for current schedule.

[\[Back to Table of Contents\]](#)

36.4. Workstation Evaluations

36.4.1. Ames Health Unit Evaluations

1. When an employee is seen at the Ames Health Unit for a possible work-related injury, a "Request for Ergonomic Evaluation" form is sent to the Ergonomics Program Manager.
2. The Ergonomics Program Manager will contact the employee to schedule a workstation evaluation.
3. A report will be completed by the Ergonomics Program Manager and sent to the employee's supervisor, the employee, and the Ames Health Unit.

36.4.2. Preventive/Requested by Individual

1. Civil service employees may request ergonomic evaluations of their work environments or job tasks by contacting the Safety, Health and Medical Services Division or the Ergonomics Program Manager, or Ergonomics Solutions Team member.

[\[Back to Table of Contents\]](#)

36.5. Administrative Controls

Administrative controls are changes in the way work is assigned or scheduled that reduce the magnitude, frequency or duration of the exposure to ergonomic risk factors. Examples of administrative controls include:

1. Taking breaks. Employees working long hours at the computer should avoid static, awkward positions and take 2-minute stretch breaks at least every hour. Doing simple stretches increases circulation and speeds recovery.
2. Rotating job tasks. Avoid static postures or minimize exposure time to a specific task.

[\[Back to Table of Contents\]](#)

36.6. Record Keeping

Records of workstation evaluations are maintained in the Safety, Health and Medical Services Division and the Ames Health Unit. The Ames Health Unit maintains employees' medical records, which are confidential.

The following records will be maintained:

1. Request for Ergonomic Evaluation from the Ames Health Unit
2. Ergonomics Log of all evaluations performed
3. Job and workstation evaluations
4. Supervisors' response to recommended control measures
5. Evaluation of the Ergonomics Program and its effectiveness
6. Minutes and evaluations of Ergonomics Solutions Team

[\[Back to Table of Contents\]](#)

36.7. Computer Glasses Program

Computer glasses correct for mid-range vision and may be helpful for employees working two consecutive hours or at least 4 hours per day on a computer. They are provided for civil servants and contractors at the expense of the organization and to contractors at their own cost. A current prescription (within the last year) is required. An optometrist is onsite at the Ames Health Unit one day a week to see patients.

36.7.1. Civil Servants

1. Contact the Ames Health Unit for an appointment with the optometrist.

2. Two forms will be provided by the Ames Health Unit: a) Ergonomics Program Vision Questionnaire, and b) ARC 169, Authorization for Safety Glasses, which must be signed by the supervisor. Check "other" category and write in "computer glasses."
3. Initial screening will be conducted by Ergonomics Program Manager.
4. Glasses are paid for by the organization and ordered on government credit cards.
5. A third form provided by the Ames Health Unit, Computer Glasses Authorization Form, must be attached to the SoA (Statement of Account) when submitted to Accounting.

36.7.2. Contractors

1. Computer glasses are provided to contractors at their own expense. Procedures are the same as above, but the glasses are charged at a set fee of \$120 a pair.
2. They can be purchased with personal credit cards and be reimbursed by the contract.

[\[Back to Table of Contents\]](#)

36.8. Ergonomics Solutions Team

The Ergonomics Solutions Team is a safety committee made up of approximately 30 volunteers representing every Directorate at Ames. These employees are trained to perform preventive ergonomic evaluations in their codes, with the goal of helping to reduce ergonomic hazards in the workplace and RSIs at the Center. The team meets bi-monthly.

[\[Back to Table of Contents\]](#)

39.9 Appendices

36.9.1. Appendix A: Office Ergonomics Evaluation Worksheet

Employee's Name/Ext/MS:	
Worksite/Location:	
Supervisor:	
Code/MS:	
Evaluated By:	
Date:	
Total No. of Workstations Represented:	
Type of VDT Equipment Used:	
Type of Tasks Performed:	
Typical Hours and Work Conditions of VDT Operations:	

WORKSTATION EQUIPMENT

Do the chair, work surface and VDT fit the operator or readily adjust, such that the operator can have the following elements of proper posture:

	Yes	No
1. Are the keyboard and other input devices at approximately elbow height?		
2. Is the primary screen display below eye level with the primary viewing area from 1 to 60 degrees below the horizontal plane at eye level?		
3. Is there adequate space beneath the work surface for the employee's legs?		
4. Is the front edge of the keyboard, other input devices and/or their support surface (wherever palm, wrist or forearm contact occurs) rounded and/or padded?		
5. Is the work surface of sufficient size to accommodate the VDT components, document holder and other task-dependent items?		
6. Is there adequate space and comfortable support for the employee's knees and hips to be bent at approximately 90 degrees or greater with arms at their sides and wrists straight at the keyboard/ input device?		
7. Is the screen display equipped or positioned to minimize glare?		
8. Do the employees have frequent short interruptions from keystroke/inputting at regular intervals throughout the shift during which they can perform other duties, or otherwise give their hands and wrists a break?		

RECOGNITION AND TRAINING

Are employees trained and aware of the following information?

	Yes	No
9. VDT equipment and/or work practices that caused repetitive motion injuries.		
10. Symptoms of repetitive motion injuries associated with VDT use.		
11. The importance of reporting symptoms and injuries to the supervisor.		
12. The importance of employees taking frequent short interruptions from keystroke/inputting at regular intervals throughout the shift during which they can perform other duties, or otherwise give their hands and wrists a break?		

36.2.3. Appendix B: Ergonomic Evaluation/Supervisor Responsibility

QH: [REDACTED] Dates:

TO: _____

FROM: Ergonomic Evaluator, Code QH

SUBJECT: Ergonomic Evaluation/Supervisor Responsibility

Your employee, _____, was evaluated by _____, on _____. Please see attached evaluation form and recommendations for suggested changes to the employee's workstation to help minimize present and future repetitive motion injuries.

As the supervisor for this operation, please review these findings and recommendations. Any workstation identified during the evaluation as posing an ergonomic risk (i.e., by an answer "No" to any of the first eight (8) work sheet questions) needs to be corrected by using any combination of feasible engineering and/or administrative controls to change any "No" answer to "Yes."

1. Have modifications been made regarding each recommendation of the evaluator?

_____ YES _____ NO

2. If certain areas have not been addressed, please state the reason(s) below:

3. Additional comments:

If you have any questions regarding this ergonomic evaluation, please call me at [REDACTED]. Thank you for your assistance.

Please answer the above questions and return this form to [REDACTED] within thirty (30) days from the date of this memorandum.

[REDACTED]

cc: [REDACTED]

36.2.4. Appendix C: Hand Tool Ergonomics

Below are some key points to remember when selecting, purchasing or using hand tools. Following these points can help prevent MSDs and related injuries:

- Avoid tools that produce a bent wrist position during use. The ideal wrist position is neutral (i.e., straight). This position should be maintained while performing work. Following good ergonomic design principles allows you to keep your wrists straight and your elbows close to the body. Job tasks that require excessive twisting or bending may place great strain on the nerves, tendons and muscles in your arm.
- Handles should be located close to the center of gravity of the tool. This reduces the chance of a tool slipping out of your hand. For most tools, choose a handle length of at least five inches -add another half-inch if you wear gloves. A short handle won't allow all of your fingers to grip the handle and, as a result, it may dig into your palm, pressing on nerves and reducing blood flow. Textured plastic or rubber grips provide friction for a more secure grip. Padded grips reduce the impact of vibration. Avoid metal handles since they can conduct electricity. Handle grips with form-fitting finger grooves should be avoided. These grips seldom fit the user's hands and fingers, causing additional stress to the fingers.
- Select hand tools that fit the workers' hands. A tool that is too large or too small produces stresses in the hand and wrist. As a general rule, the ideal handle diameter is 1.5 in. for a man and 1.3 in. for a woman.
- Do not select a tool so large as to be difficult to hold. Heavy or unbalanced tools tire the upper arm and shoulder muscles, especially when the job task requires you to straighten your arm out. The amount of weight you can handle comfortably will vary from person to person.
- Select power or pneumatic tools with built-in vibration dampening. Use a soft covering on a tool handle to protect the hands from heat and cold and to help reduce pressure points, vibration, and slipperiness of the grip. Such covering encourages a more relaxed hold on the tool.
- For tools that are activated by a trigger, choose a grip size that allows activation with the middle part of the fingers. Activation with the fingertips can create nodules on nerve sheaths and cause a type of cumulative trauma disorder (CTD), known as trigger finger.

The following are additional considerations during the use of hand tools to help avoid ergonomic related injuries:

Grip Force

This is the force required to hold and operate a tool. There are two basic hand grips-power and pinch. Power grips are best when you need to exert high forces. Pinch grips are better suited to precision tasks. Excessive grip force can harm soft tissues and nerves, tendons and blood vessels. Therefore, grips should distribute force over as wide an area as possible, with little or no pressure on the sides of the fingers.

Feed Force

This is the force used to operate a tool. Pushing, pulling or twisting are all examples of feed force. The more comfortable the grip, the better, as the feed force is spread out in your palm.

Repetitions

Repetitions are the number of tool cycles required to perform the job task. Highly repetitive tasks,

combined with excessive twisting and bending of the wrists, arms or shoulders can inflame the tendons.

Vibration

The shock waves transmitted to your hands and shoulders are examples of vibration. Normally, vibration does not cause CTDs. However, vibration combined with an awkward posture, force and repetition can speed the time in which you develop a CTD. Frequencies of 40-90 hertz produce the greatest stress. Lower-frequency vibrations can also be damaging if you repeat the job task frequently. You can reduce vibration stress by wearing vibration-damping gloves, lowering power-tool speeds, and breaking down lengthy projects into shorter-duration tasks, and balancing out-of-round rotating parts.

Torque

Torque is the force that produces rotation or "torsion." When you drive a fastener into material with a power tool, torque transfers to your hand when the screw or bolt bottoms out and makes your hand snap. Repetitive snapping motions can produce a great deal of stress and can cause injuries and illnesses when they occur on a regular basis. Power tools with an extra handle for your other hand help counter torque stress. Pulse tools, which stop rotating when the desired torque is reached, can also help reduce torque stress.

[\[Back to Table of Contents\]](#)

36.4.3. Appendix D: Manual Materials Handling

In addition to computer workstations, there are many other work settings where ergonomic practices are important in order to prevent Musculoskeletal Disorders (MSDs) and Cumulative Trauma Disorders (CTDs). The following table provides a list of the most common risk factors associated with these types of injuries and the recommended control measures.

RISK FACTOR	CONTROL MEASURES
Weight of object	<input type="checkbox"/> Use mechanical assist <input type="checkbox"/> Get help-use two person lift <input type="checkbox"/> Split load into smaller/lighter loads <input type="checkbox"/> Increase container size and use mechanical lifting device
Horizontal distance of load from body	<input type="checkbox"/> Lift load close to body <input type="checkbox"/> Use mechanical assist <input type="checkbox"/> Store heavy items within easy reach <input type="checkbox"/> Repackage load before lifting <input type="checkbox"/> Workstation design-heavy items located within easy reach
Vertical location of load	<input type="checkbox"/> Avoid lifts above shoulder height <input type="checkbox"/> Avoid lifts near floor level <input type="checkbox"/> Store heavy items at or near waist level <input type="checkbox"/> Store frequently handled items at or near waist level
Frequent handling of loads for long periods	<input type="checkbox"/> Use conveyor systems <input type="checkbox"/> Increase number of workers doing job <input type="checkbox"/> Reorganize work methods <input type="checkbox"/> Cross train employees to perform several jobs
Twisting/awkward postures	<input type="checkbox"/> Workplace design to minimize twisting while lifting <input type="checkbox"/> Use of conveyors, lift tables and other mechanical assist devices <input type="checkbox"/> Eliminate clutter in workspace

Ergonomic considerations are present with every job and task performed by an individual. Determining the most effective and practical control measures requires a comprehensive evaluation of the job, the risk factors, and worker- specific criteria. These evaluations should be requested through your supervisor, or by contacting Safety, Health and Medical Services Division as indicated in this chapter. The following are basic measures that can be taken to minimize the potential for ergonomic related injuries:

- * Respect pain. If an activity causes pain or discomfort, stop and evaluate the activity to look for alternative approaches. Change positions if the activity is causing pain or discomfort.
- * Alternate tasks during the workday to interrupt repetitive activities.
- * Keep the wrists in the neutral position whenever possible.
- * Use two hands whenever possible, even when handling light objects or doing small tasks.
- * Make several trips with lighter loads. Use a cart or dolly, if necessary.
- * To avoid the use of a sustained, forceful grip, use a vice, clamp, or jig to stabilize objects.

[\[Back to Table of Contents\]](#)

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