



# **San Mateo County Ergonomics Policy for Computer Operations**

**2014 Edition**

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## INTRODUCTION

Ergonomics is a dynamic science dedicated to understanding how the human body responds to the physical forces encountered in performing work-related tasks. When effective ergonomic principles are applied and put into practice, work-related injuries such as musculoskeletal disorders and repetitive strain injuries are preventable. As an employer, San Mateo County is invested in employees and committed to providing the most effective, safe and comfortable work environment with consideration to the variety of assigned tasks and essential functions necessary in delivering County services.

The San Mateo County **Ergonomics Policy for Computer Operations** is an updated document to the prior Ergonomics Policy for Personal Computer and Video Display Terminal Operations, which primarily focused on roles and responsibilities, safe work practices, equipment guidelines and computer operator training. This revised policy incorporates detailed procedures for departments to reference when managing the ergonomic evaluation process for employees.

A companion document, the **Ergonomic Office Standards**, outlines specific furniture requirements that comply with Government and industry standards for performance and safety, as well as equipment options to assist with controlling risk factors known to contribute to musculoskeletal disorders. A new **Ergonomic Equipment Procurement Guide** is being developed as an additional resource for departments to use when ordering ergonomic accessories.

## BACKGROUND

In 1990, the Service Employees International Union (SEIU Local 715) and the County met to address vision problems of employees using personal computers and video display terminals (VDT's). It was determined that the issue of safe VDT use went well beyond vision problems. Complaints of upper and lower extremity discomfort, back and neck pain, and headaches were also identified as potential related health problems. A comprehensive ergonomic program was developed to address these concerns.

In 1999, the County brought together ergonomic, safety and risk management professionals to develop office furniture and equipment standards with the purpose of controlling risk factors known to contribute to musculoskeletal disorders. In 2001, the Ergonomic Office Standards was published as a reference guide for departments on how to proactively control such risk factors and address employee health and safety when remodeling, moving, or purchasing new computer-related furniture and equipment.

Computers have become integral tools in daily operations throughout the County. A significant amount of County operations have been automated and computer-use has become the primary task for many employees. At this time, computer technology is rapidly evolving into a mobile format and the County is already evaluating mobile service options. The County's **Ergonomics Policy** and **Ergonomic Office Standards** provide for flexibility in workstation design to support a broad-range of service delivery models for the work environments of today and the future.

## STATEMENT OF COUNTY POLICY

To assure the health and safety of County workers, and to comply with CCR T8 Section 5110, Repetitive Motion Injuries, the County establishes an **Ergonomics Policy for Computer Operations**. The Ergonomics Policy outlines roles and responsibilities, step-by-step procedures, and addresses computer operator education and training.

## OBJECTIVES

The objectives of this policy are to:

- Provide a safe working environment for employees who use computer equipment as part of their work assignment;
- Encourage employees to take steps to assure that their working environment is safe and comfortable;
- Provide guidelines to assist departments with evaluating ergonomic needs, employee training, and the selection and procurement of equipment and furnishings;
- Save money by reducing Worker's Compensation costs and increasing efficiency and productivity;
- Improve employee comfort and job satisfaction.

## REFERENCES

- California Code of Regulations, Title 8, Section 5110, Repetitive Motion Injuries (Cal/OSHA) <http://www.dir.ca.gov/title8/5110.html>
- NIOSH Publication 99-135, "NIOSH Publications on Video Display Terminals, Third Edition." <http://www.cdc.gov/niosh/docs/99-135/>
- NIOSH Publication 97-117, "Elements of Ergonomics Programs." <http://www.cdc.gov/niosh/docs/97-117/>
- NIOSH Publication 97-141, "Musculoskeletal Disorders and Workplace Factors." <http://www.cdc.gov/niosh/docs/97-141/>
- Occupational Safety and Health Administration (OSHA), "OSHA Ergonomic Solutions: Computer Workstations eTool" <http://www.osha.gov/SLTC/etools/computerworkstations/index.html>

## ACKNOWLEDGEMENTS

The input of employees, departments and ergonomic professionals has formed the **Ergonomics Policy for Computer Operations** into an efficient and effective program designed to proactively identify and address workplace hazards before related injuries occur. The following list includes many of the key contributors:

1. Department Ergonomic Coordinators, past and present
2. Service Employees International Union (SEIU Local 715)
3. VDT Policy Implementation Committee, 1990
4. Furniture Standards Committee, 1999
5. Ergonomic Standards Committee, 2001
6. Andrea Johnson, BFA, CCIDC, KRJ Design Group - Principal
7. Vincent Xin Wang M.Sc. AEP, Humanscale Consulting
8. Donald L. Morelli, CPE, Ergokarma Ergonomics Consulting

## RESPONSIBILITY

All employees assigned to operate computers are responsible for knowing the risk factors of computer use, practicing safe work habits, and for using the tools appropriately that are provided within their work settings.

This section outlines responsibilities for providing and working within a safe work environment:

### Departments

#### DEPARTMENTS are responsible for:

- Ensuring that employees have furniture and computer equipment that meets ergonomics policy and purchasing standards and is appropriate for the assigned tasks;
- Training employees on how to appropriately and safely use computer equipment;
- Evaluating how operational changes affect the assigned tasks of employees and if there are any possible ergonomic risks associated with such changes;
- Designating an internal **Department Ergonomic Coordinator(s)** who's assigned role is to implement and monitor this policy at the department level;

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- Purchasing and maintaining new electronic equipment, adaptive devices, and furnishings that conform to the specifications and ergonomic standards of this policy;
- Evaluating computer workstations and how operators interact with their computer equipment through the completion of ergonomic evaluation checklists;
- Maintaining and servicing any electronic equipment or securing appropriate service and maintenance agreements with outside vendors in coordination with Purchasing, as necessary;
- Providing appropriate cleaning supplies for use by the operator;
- Assuring the availability of operators to attend necessary training in computer ergonomics and related education programs and activities;
- Establishing an internal review and referral process through the Department Safety Committee to identify computer-related injury trends and focus resources on high-risk activities;
- Working with Risk Management in correcting any workstation deficiencies when an employee reports a workers' compensation claim;
- Using the assistance of Risk Management and Purchasing, a certified Space Planner and an Professional Ergonomist, as necessary, in office moves and remodels;
- Assuring that remodeled or new facilities/work areas conform to this policy, including but not limited to workstation dimensions, electrical, glare reduction, ventilation and lighting needs; to evaluate existing facility and/or workstation(s) and provide space planning support for workstation configurations to conform to this policy.
- Allowing operators regular work breaks from the computer to do alternate work. These work breaks shall be no less than 10 minutes for every 2 hours of computer work. These work breaks shall be in addition to regular breaks.

## Computer Operators

### *COMPUTER OPERATORS are responsible for:*

- Completing an **Ergonomic Self-Assessment** at the time of hire, when moved into a new workstation(s), and when assigned;
- Properly operating computer equipment and furnishings;
- Following the guidelines of this policy for the safe use of computer equipment;
- Promptly reporting equipment problems to the Department;
- Requesting service and cleaning maintenance for computer equipment, as needed;

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- Cleaning and caring for the exterior of the computer equipment, as needed;
- Not smoking within five feet of any electronic equipment (telecommuters);
- Using safe work practices;
- Promptly notifying direct supervisors of any related ergonomic concerns or issues.
- Taking regular work breaks from the computer to do alternate work. These work breaks shall be no less than 10 minutes for every 2 hours of computer work. These work breaks shall be in addition to regular breaks.

### Supervisors and Managers

*SUPERVISORS and MANAGERS are responsible for:*

- Being familiar with this policy, with related County ergonomic program documents, and with ergonomic fundamentals;
- Ensuring employees have the appropriate workstation equipment to perform computer operations safely with regards to physical needs;
- Reviewing ergonomic evaluation reports with employees and facilitating the provision process for related equipment and furniture recommendations;
- Using the assistance of Risk Management and Purchasing, a certified Space Planner and a Professional Ergonomist, as needed, when evaluating or procuring new computer related equipment, applications, or processes;
- Training and retraining employees in the proper use of computer equipment with special consideration to specific and unique operations;
- Ensuring operators have regular work breaks from the computer to do alternate work. These work breaks shall be no less than 10 minutes for every 2 hours of computer work. These work breaks shall be in addition to regular breaks.

### Ergonomic Coordinators

*Department ERGONOMIC COORDINATORS are responsible for:*

- Completing an **Ergonomic Evaluation** for computer operators who request assistance or who are identified through the self-assessment process as being at-risk for injury, and facilitating the acquisition and installation of necessary adaptive devices for the operator;

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- Documenting and maintaining an archive of completed Ergonomic Evaluation Checklists;
- Providing ergonomic program updates to department management, including analysis regarding computer-related injury trends;
- Assisting with the evaluation of potential impact to employee health and safety whenever new computer-based operations or equipment is proposed;
- Attending the Bi-Annual Ergonomic Coordinator Council Meetings;
- Consulting with Risk Management, as needed;
- Supporting ergonomic program awareness, such as providing new operator orientation, posting ergonomic training materials, and ensuring department employees are receiving the ergonomic training.

### Information Services Department

*Departmental IT COORDINATORS and the INFORMATION SERVICES DEPARTMENT are responsible for:*

- Being familiar with this policy, with related County ergonomic program documents, and with ergonomic fundamentals;
- Working with the Purchasing Division to identify and assist Departments in purchasing computer and related electronic equipment that conforms to the ergonomic specifications of this policy;
- Coordinating with the Purchasing Division regarding installation of major projects related to computer systems in Departments;
- Coordinating the installation of electronic equipment adaptive devices (e.g., vertical disk drive holders, monitor arms, mobile carts, etc.), as appropriate;
- Maintaining and servicing all electronic equipment for ISD-supported systems, or securing appropriate service and maintenance agreements with outside providers;
- Supporting Human Resource administered ergonomic applications, such as Remedy Interactive's OES Platform (including the iMitigate online self-assessment) and RSIGuard.



## Human Resources

*The HUMAN RESOURCES DEPARTMENT is responsible for:*

- Administering this policy;
- Providing technical assistance to departments and operators regarding computer-ergonomic health and safety information;
- Providing RSIGuard software to departments, as requested.
- Making available ergonomic training for operators and ergonomics coordinators, including a comprehensive self-assessment tool and specialized ergonomic curriculum that can be customized to a department's needs.

## Public Works

*The PUBLIC WORKS DEPARTMENT is responsible for:*

- Remodeling or completing new facilities/work areas that conform to this policy, including but not limited to workstation size, electrical, ventilation and lighting needs, and glare reduction; to evaluate, upon department request, and existing facility and/or workstation(s) and provide space planning support for workstation configuration to conform to this policy;
- Working with departments to assure appropriate environmental conditions, including lighting and ventilation.

## County Manager's Office

*The COUNTY MANAGER'S OFFICE is responsible for:*

- Assuring that this policy is complied with in the design of new facilities;
- Reviewing budgetary and appropriation transfer requests from departments to assure adequate funds are provided to comply with this policy.

## Ergonomic Coordinator Council

*The Ergonomic Coordinator Council is responsible for:*

- Maintaining, reviewing and updating this policy on a periodic basis.
- Identifying computer-related injury trends and working with Department Management and Risk Management on corrective action planning and implementation.

## ASSISTANCE

If you have questions that are not answered by the content of this policy, please contact one of the following:

- You Department Ergonomic Coordinator
- Your Department Safety Committee
- County Safety and Ergonomics Manager (363-4613)
- Your Labor Organization

## FUNDAMENTAL ERGONOMIC PRINCIPLES

This Policy and the County's Ergonomic Office Standards are in keeping with the following human factors and ergonomics objectives:

- Enhance workstation usability by improving ease of use and ease of learning;
- Accommodate users of various physical sizes and expertise levels;
- Maintain user performance by allowing postural changes that minimize static loads;
- Promote user satisfaction by fostering product acceptance and product usage;
- Avoid awkward postures via the design and adjustability of work place furnishing and equipment;
- Avoid unsupported body parts, specifically but not exclusively, the torso, back, and arms.

## SAFE WORK PRACTICES FOR COMPUTER OPERATIONS

### 1. AVOID REPETITIOUS TASKS

- Keep regularly used items within close proximity to reduce over-reaching.
- Vary tasks so that you are not doing one task for an extended period of time.
- Use keyboard shortcuts to minimize mouse strain.
- Change posture frequently to minimize static postures.
- Take frequent rest breaks to reduce fatigue and generate productivity.
- Use RSIGuard Interactive Software to help identify when to take a break.

## **2. PROTECT YOUR EYES**

- Take frequent “vision breaks” to minimize eye strain when using a computer. A good rule to follow is the “20-20-20” rule or every 20 minutes take a 20 second break and look at least 20 feet away to relax the eyes.
- Have your eyes examined regularly and wear appropriate eyewear.
- Adjust the font size, brightness and contrast of the monitor screen.
- Reduce direct overhead light sources.
- Use task lighting to illuminate materials when reading or writing.

## **3. USE PROPER INPUTTING TECHNIQUES**

- Hands, wrists and forearms are straight and typically parallel with the floor.
- Head is level or bent slightly forward, forward facing and is in-line with the neck, shoulders and torso.
- Shoulders are relaxed and upper arms are at the side of the body (not reaching forward).
- Elbows stay close to the body and are bent between 90 to 120 degrees.
- Feet are fully supported on the floor or on a foot rest.
- Back is fully supported when sitting vertical or leaning back slightly.
- Thighs and hips are supported by an appropriate seat cushion with hips positioned slightly higher than the knees.

## **4. MAINTAIN EQUIPMENT IN GOOD WORKING CONDITION**

- Clean equipment regularly with appropriate computer cleaning supplies. For employees at shared or community workstations, it is good practice to clean equipment prior to use and at the end of use.
- Promptly report keyboards, mice, and related computer equipment that is not functioning properly.

## **5. PRACTICE WELLNESS**

- Take frequent stretch breaks.
- Participate in Wellness activities. [Be Healthy, You Matter!](#)

## PRESCRIPTION COMPUTER EYEWEAR PROGRAM

Employees are responsible for seeking eye exams, eye care and corrective lenses from the doctor of their choice. Eye examinations and eye glasses are covered through the employees' vision care benefits program.

Employees who are computer operators with a multi-focal prescription are eligible to receive **near distance, single vision computer glasses** through Risk Management. This program is provided through the County's Prescription Safety Eyewear Program as an ergonomic resource to eliminate the risk of a repetitive motion injury due to the head and neck motion common to operators wearing multi-focal lenses.

Operators who qualify may contact Risk Management to request glasses for computer use. Employees may schedule an appointment with Risk Management to select frames and submit a current (within two years) multifocal prescription. Risk Management will replace these glasses when a prescription is updated or if the glasses become damaged.

## COMPUTER OPERATOR EDUCATION AND TRAINING

The Human Resources Department will administer an education and training program for Computer Operators, which will include:

1. Distribution of this Ergonomic Policy to employees generally affected by its guidelines and any employee upon request;
2. A self-assessment orientation for all computer users (mandatory), an online or classroom course (optional for computer users and mandatory for employees who have computer-related injuries), and specialized training (upon departmental request or when identified through risk analysis);
3. A training program that will include:
  - Techniques to minimize physical discomfort, stress and eye strain;
  - Basic ergonomic concepts;
  - Basic back care concepts;
  - Environmental and workstation modifications that assure operator comfort and safety to the most reasonable extent possible;
  - Communication of occupational hazards of computer use as specifically mandated by State or Federal legislation.

## **ERGONOMIC EVALUATION PROCESS**

### **1. Ergonomic Self-Assessment (by Employee)**

The ergonomic evaluation process begins with the employee's self-assessment. The purpose of the self-evaluation is to orient computer users with the features of their computer workstations and to provide guidance on proper positioning of computer equipment, the common risk-factors of computer use, and how to make adjustments for optimal working posture.

The ergonomic self-assessment is to be completed at the time of hire, when assigned to a new workstation, and annually thereafter. Completed assessments are to be reviewed and signed by the Supervisor and forwarded to the Department Ergonomic Coordinator. For completed self-assessments that are identified as moderate to high-risk for an ergonomic injury, Ergonomic Coordinators will provide an additional evaluation.

### **2. Fundamental Ergonomic Evaluation (by Department Ergonomic Coordinator)**

Ergonomic Coordinators receive initial and ongoing training specific to the elements of providing a fundamental level ergonomic evaluation for employees. The purpose of the ergonomic evaluation is to address concerns of discomfort raised during an ergonomic self-assessment and to provide adjustments or make recommendations for alternative equipment or modifications. Recommendations are the responsibility of the department and are to be provided in a prompt manner to ensure employee health and safety.

### **3. Preventive Ergonomic Evaluation (by Professional Ergonomic Consultant)**

When an employee experiences ongoing discomfort or may have physical needs beyond the scope of a fundamental ergonomic evaluation, a professional ergonomic consultant can provide a preventive-level ergonomic evaluation. At this level, a written comprehensive evaluation of work tasks, symptoms of discomfort or physical needs, and recommendations above basic level equipment will be provided. Just as with the fundamental ergonomic evaluation, recommendations are the responsibility of the department and are to be provided in a prompt manner to ensure employee health and safety. Contact Risk Management (363-4613) when requesting a preventive ergonomic evaluation.

### **4. Mitigative Ergonomic Evaluation (by Professional Ergonomic Consultant)**

When an employee files a Workers' Compensation Claim for a work-related injury, Risk Management will make a referral to the appropriate ergonomic professional for an evaluation. At this level, Risk Management will work closely with the employee and their supervisor on how to best provide the recommendations made during the mitigative evaluation. Recommendations are the responsibility of the department and are to be provided in a prompt manner to ensure employee health and safety. Contact Risk Management (363-4613) when requesting a preventive ergonomic evaluation.