

Ergonomics in the Computerized Office



Look into a modern automobile. It probably has adjustable bucket seats, head rests, airbag, strategically-located buttons and switches, tinted glass, tilt steering wheel, rear-window defogger, anti-lock brakes, power steering, and other people-oriented features to improve human safety and performance.

Ergonomics was a major factor in each of these innovations.

Since World War II when complex weapon failures were traced to human error, this science of human engineering...designing tasks and equipment to fit human needs and capabilities...has been gathering momentum.

Today, ergonomics permeates nearly every aspect of our lives. Nowhere is this more appar-

ent in the computerized office. Studies by the National Institute for Occupational Safety and Health and by the University of Michigan indicate that improperly-designed computer workstations can cause serious health disorders that reduce productivity and endanger workers.

A dramatic increase in the number of computer-related workers compensation claims backs up these findings.

For managers of computer users, the challenge is clear: develop an ergonomics program that fits your 21st century technology.

Set a Strategy

Strategic thinking and planning are the keys to developing a successful ergonomics program. Four essentials are integral to this process:

Delegate Specific Responsibilities

Many larger companies form an inter-departmental task force to develop and administer their ergonomics program. You also may consider the use of outside consultants to help you get started. A variety of functions within your company may need to be represented, including:

- safety
- occupational health
- human resources and personnel
- production and operations
- engineering
- purchasing
- budget and financial

- claims handling and insurance
- information services (computers)
- employee representatives

Define Concrete Objectives

The task force or individuals responsible for establishing the program need to establish specific program objectives. These may include:

- lowering the incidence of computer-related disorders
- reducing employee complaints
- establishing a corporate ergonomics standard for VDT workstations
- identifying and analyzing current problems
- developing appropriate controls
- delegating responsibilities
- training employees and supervisors
- establishing guidelines for medical treatment and claims handling
- fostering effective communication within your organization

Identify Key Concerns

A successful ergonomics program encompasses many concerns. Here are some that crucial to the planning process:

- Make top management support visible. It is the most vital part of the program.
- Require interdepartmental coordination and teamwork—it is a must!
- Take measures to systematically identify and evaluate the problems at an early stage.
- Realize that this not a single problem—it's many. Your responses must be specific to the various needs identified.
- Don't look for simple remedies or quick fixes—there are none. When it comes to medical treatment, one remedy does not fit all.
- Make your employees part of the solution. Seek their input and involvement in any control responses.

- Communicate your program to everyone, and market it effectively throughout your organization.
- Recognize that the problem is not “all in their heads.” It is a legitimate complaint that deserves serious attention.
- Use available resources and outside consultants carefully, and only in a well-controlled and well-communicated fashion.

Do Your Homework

Get familiar with the most important standards and resources, including:

- OSHA Publication #3123—Ergonomics Program Management Guidelines For Meatpacking Plants (also useful for general industry)
- ANS/HFS Standard #100—Human Factors Engineering of Visual Display Terminal Workstations
- NIOSH Publication—Cumulative Trauma Disorders: A Manual for Musculoskeletal Diseases of the Upper Limbs
- LP 942—Cumulative Trauma Disorders of the Hands and Wrists: A Loss Prevention Guide for Management
- Videos—Available from a number of commercial vendors and Wausau Insurance
- Consultants—For example, Wausau Insurance, NIOSH, and universities

Target the Issues

A customized ergonomics program encompasses five vital areas:

- Program Management
- Employee Involvement
- Hazard Identification and Control
- Medical Management
- Training and Education

The following questions identify issues that must be addressed in developing your program*

* Adapted from OSHA publication #3123

Program Management

Top Management Commitment:

- Will your company have a written policy?
- How will responsibilities be assigned?
- Will the assigned individuals have authority to carry out the plan?
- How can your company ensure interdepartmental teamwork?
- How can senior management best demonstrate support?
- Are resources and budgets adequate? How much is needed?

Written Program

- Will you develop a written action plan with target dates?

Regular Program Review and Evaluation:

- How will you evaluate success?
- Who will be responsible for monitoring progress? Task force?

Employee Involvement

- How best to handle employee input, suggestions, and complaints?
- Is there a procedure for encouraging prompt, accurate reporting of problems?

Hazard Identification and Control

Worksite Analysis

- Will you conduct a systematic ergonomics survey of individual VDT workstations?
- How will the survey findings be reported and used?

Engineering Controls

- Does your company have a standard for the procurement and adjustment of computer workstations?
- Can existing equipment be adjusted/modified to meet the standard?
- How can this be achieved initially and on going?

- Must new furniture/equipment be acquired?
- Who is responsible for ensuring that suitable equipment is acquired? Is sufficient budget available?

Work Practice Controls

- Will procedures be established (written) for proper work technique?
- What kind of new employee training/conditioning is necessary?
- Will workstations be adjustable?
If so, by whom? Supervisors/users? Procedures and monitoring?

Personal Protective Equipment

- What will be your policy on the use of wrist supports? Document holders? Armrests? Glare screens? Footrests?
- What is your eye examination/eyeglass policy? Does it need revision?

Administrative Controls

- What is your company's position concerning rest breaks? Reductions in production demands? Job rotation? Job enlargement?
- What kind of preventive maintenance will there be?

Medical Management

Health Care Providers

- Will the program be under the supervision of a physician or occupational health nurse (OHN) with training the prevention and treatment of cumulative trauma disorders?
- Will trained health care providers be available?
- Will the health care providers use written protocols prepared and kept up-to-date by the physician or occupational health nurse?
- Will health care providers be familiar with workplace conditions?

Early Recognition and Reporting

- Will you institute periodic symptoms surveys?
- How will you encourage early recognition and reporting?
- What provision have you made for screening assessment of workers who report symptoms?

Systematic Evaluation and Referral

- Who will evaluate employee complaints?
- What can you handle in-house, and what will you refer to outside providers?
- If conservative treatment is prescribed, will there be procedures/policies for implementing at-work components?
- Will you have suitable "light duty" work available?

Systematic Monitoring

- Will you institute baseline and periodic health surveillance examinations?
- What procedures will the examinations include?

Injury and Illness Recordkeeping

- Will periodic analyses of cases be made to spot trends?

- What factors will be analyzed? Types of workers, tasks, locations?
- What procedures will you have for consistent, informative recordkeeping?
- Will you ensure compliance with OSHA recordkeeping provisions?

Training and Education

General Training

Job-Specific Training

Training for Supervisors

Training for Managers

Training for Engineers and Maintenance Personnel

- Who will be responsible for each of the above types of training?
- What will training consist of?
- Will it be self-administered or group training?
- Can you utilize computer-based training?
- How will the safety message be communicated? Videos, pamphlets?
- Do you need additional/new support materials?