Ergonomics is an applied science and the practice of adapting products and processes to human characteristics and capabilities in order to improve people’s well-being and optimize productivity.

Without using proper ergonomics, the stresses of every day work can have major wear and tear on our bodies. Serious injuries can occur, most commonly Musculoskeletal Disorders (MSDs).

These injuries are caused by excessive or repetitive physical demands placed on your body over long periods of time. MSDs can affect any body part that is placed under increased stress. 1 out of every 3 MSDs is serious enough to result in lost time from work.

Policies and Procedures
Purpose
The purpose of this program is to effectively eliminate or reduce work-related Musculoskeletal Disorders (MSD’s) and hazards by providing management support and employee involvement in the identification and resolution of hazards and by providing training and evaluation on an on-going process.

- **Ergonomics**: is the science of fitting jobs to people. Ergonomics encompasses the body of knowledge about physical abilities and limitations as well as other human characteristics that are relevant to job design. Ergonomic design is the application of this body of knowledge to the design of the workplace (i.e., work tasks, equipment, and environment) for safe and efficient use by workers.
- **Ergonomic program**: is a systematic process for anticipating, identifying, analyzing and controlling MSD hazards.
- **Musculoskeletal disorders (MSDs)**: are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal disks. Examples of MSDs include:
  - Carpal tunnel
  - Tendonitis
  - Epicondylitis
  - Synovitis
  - Muscle strains
  - Raynaud’s phenomenon
  - Rotator cuff tear
  - Shoulder Tendonitis, Bursitis, Impingement
  - De Quervains’ disease
  - Carpet layers knee
  - Trigger finger
  - Raynaud’s phenomenon
  - Sciatica
  - Low back pain
  - Ulnar Nerve Impingement
  - Thoracic Outlet Syndrome

Program Goals

- Decreased level of risk for ergonomic injuries to employees.
- Improved moral among employees.
- Improved quality of work.
- Increased productivity.
- Increased safety awareness.
- Reduced worker’s compensation claims costs.
**MSD – SIGNS & SYMPTOMS**

- Joint Pain
- Stiffness
- Pain, tingling, or numbness in hands, palms, feet or other areas
- Loss of muscle function
- Swelling or inflammation
- Difficulties performing daily activities
- Burning sensation
- Shooting or stabbing pains in arms and legs
- Difficulties in moving body parts
- Decreased range of motion
- Redness/loss of color
- Cramping
- Deformity

**MSD RISK FACTORS**

There are several hazards that are reasonably likely to be causing or contributing to MSDs. Risk factor examples:

- Repetition Keyboarding, “mousing”
- Poor body mechanics
- Poor posture/lifting
- Force Carrying
- Vibration Driving
- Impact Hand tools
- Acceleration throwing objects
- Cold Working outdoors, working in refrigerated areas
- Work-rest ratio Overtime

**Prevention Methods**

Engineering Controls are the physical changes to jobs that control exposure to MSD hazards, and where feasible, are the preferred methods for controlling MSD hazards. Engineering controls act on the source of the hazard and control employee exposure to the hazard without relying on the employee to take self-protective action or intervention. Examples of engineering controls for MSD hazards include changing, modifying, or redesigning the following:

- Workstations
- Tools
- Facilities
- Equipment
- Materials
- Processes

Work Practice Controls are controls that reduce the likelihood of exposure to MSD hazards through alteration of the manner in which a job or physical work activities are performed. Work practice controls also act on the source of the hazard. However, instead of physical changes to the workstation equipment, the protection work practice controls provide is based upon the behavior of managers, supervisors, and employees to follow proper work methods. Work practice controls include procedures for safe and proper work that are understood and followed by managers, supervisors, and employees. Examples of work practice controls for MSD hazards include:

- Safe and proper work techniques and procedures that are understood and followed by managers, supervisors, and employees.
• Conditioning period for new or reassigned employees
• Training in the recognition of MSD hazards and work techniques that can reduce exposure or ease task demands and burdens.

Administrative Controls are procedures and methods, typically instituted by the employer, that significantly reduce daily exposure to MSD hazards by altering the way in which work is performed. Examples of administrative controls for MSD hazards include:

• Employee rotation
• Job task enlargement
• Adjustment of work pace
• Redesign work methods
• Alternative tasks
• Rest breaks

Training
Employees must be made aware of the following:

• How to recognize MSD signs and symptoms and the importance of early reporting.
• How to report MSD signs, symptoms and hazards and to help make recommendations.
• MSD hazards in their jobs and the measures they must follow to control MSD hazards.
• Job controls and work practices that have been implemented in their jobs.
• The ergonomics program and their role in it.
• How to identify, evaluate and implement measures to control MSD hazards.
• How to evaluate the effectiveness of the ergonomics program.
• Participate in the annual ergonomics training opportunity.

VCSU strives to create a health working environment by implementing various techniques including ergonomics. For more information, read the "VCSU Ergonomics Policy and Procedures" and read through the "Ergonomics Information" located on the VCSU Safety website.