Guidelines – Ergonomics Program

Ergonomics is the science of workplace design that takes steps to make the job fit the person rather than the person fitting the job. The idea behind Ergonomics is to reduce physical strain by designing or modifying the work station, work methods and tools in an attempt to eliminate excessive stress, and to decrease the number of repetitive motions needed to get the job done.

Purpose:

To recognize, identify, and effectively eliminate or reduce work-related Musculoskeletal Disorders (MSD’s) and hazards to which employees may be exposed, provide training through a work place analysis; prevent pain and suffering as well as costs associated with ergonomic related illnesses/injuries.

Goals:

1. To enhance human performance while improving health, comfort, safety and job satisfaction.
2. To decrease risk of ergonomic injuries to employees
3. To reduce workers compensation claims costs

Management Responsibility:

To establish a comprehensive safety guide that facilitates the protection of life and property by providing a safe Campus work and learning environment that is free of recognized hazards that could cause injury, illness or property damage. The college President’s Safety Statement is that commitment to provide a safe and healthy environment for all of its employees. With the employee’s needs as the main objective, this program also aims to improve cost containment through safety training and claims management principles and practices.

Management/Supervisor Responsibility:

1. Assign and communicate responsibilities for setting up and managing the ergonomics program so managers, supervisors, and employees know what is expected of them and how they are held accountable for meeting those responsibilities.
2. Provide those persons with the authority, resources, information, and training necessary to meet their responsibilities.
3. Examine existing policies to ensure they encourage reporting and do not discourage reporting.
4. Inform supervisors to receive and respond promptly to reports about signs and symptoms of MSDs, MSD hazards and recommendations. Take action, where required, to correct identified problems.
5. Communicate regularly with employees about the program and their concerns about MSDs. This shall be accomplished through safety and health committees, postings, newsletters, staff meetings and routine safety training.

**Supervisor Will:**

1. Enforce reporting of signs and symptoms of MSDs and MSD hazards and to make recommendations about appropriate ways to control them.
2. Report procedures which include notification of immediate supervisor, ergonomic request forms and medical management.
3. Provide prompt response in their reports and recommendations.
4. Provide access to information about the ergonomics program and make the program available to all employees for review.
5. Provide methods to become involved in developing, implementing, and evaluating:
   a) Job hazard analysis and control
   b) Training
   c) Employee involvement by enlisting comments, recommendations, and suggestions and forwarding them to the Safety and Security Office.

**Employee Responsibility:**

1. Participate in mandatory trainings.
2. Report ergonomic risks and hazards immediately.
3. Report any signs of pain and soreness that could be related to repetitive motion. Be alert to the symptoms of numbness, tingling and apparent loss of strength of muscles.
4. Report every incident, injury, illness and near miss immediately to their supervisor and the Safety and Security Office.
5. Review and comply with the Ergonomics Program.
6. Provide comments, recommendations, and suggestions and forward them to the designated program administrator for action and response.

*The MSD Symptoms and Prevention list can be found following the guidelines.*

**Procedure:**

The purpose of the workplace analysis is to recognize and identify MSD hazards/risk elements to provide information for effective control measures. When MSD hazards/risks are identified, control measures will be implemented to eliminate or control the hazards/risk to the extent feasible.

The first step is to analyze a job for ergonomic problems by considering:

1. Weight of the objects being handled
2. Repetitions of certain movements or tasks
3. Rate/duration of job task
4. Appropriateness of tools/equipment
5. Body position and mechanics
6. Force of grip and amount of exertion
7. Environmental conditions
8. Training

The second step in implementing the workplace analysis will be a review of the injury and illness records.

The third step will include observation of employees performing their work tasks. Some typical risk factors may include improper lifting techniques, excessive repetition and prolonged activities, exposure to vibrations and excessive force.

**Prevention & Control:**

Appropriate steps must be identified to correct, control, or eliminate the ergonomic hazard. Those at BSC are as follows:

1. **Engineering Controls** – the preferred method for controlling MSD hazards – these are the physical changes to jobs that control exposure to MSD hazards, 
   - Work Station Design: Workstations shall be made easily adjustable when possible; either designed or selected to fit the task, so they are comfortable for the employee.
   - Work Method Design: Work methods shall be designed to reduce static, extreme or awkward postures, repetitive motion and excessive force.
   - Tool and Handle Design: A variety of sizes will be available to achieve proper fit and reduce ergonomic risk. The appropriate tool shall be used to do a specific job.

2. **Work practices** - provide control based upon the behavior of managers, supervisors and employees to follow proper work methods and include several elements which will require education and hands on training. For example:
   - Proper work techniques: Includes training on the correct lifting procedures and correct use of ergonomically designed work stations, fixtures and tools.
   - Employee conditioning: Includes a gradual “break-in” training period or a gradual increase in duties and job requirements until the maximum workload, specific to the job, is attained. This would include employees reassigned to new jobs.
   - Inspections: Shall be conducted periodically to ensure safe operating procedures are being followed.
   - Maintenance: Will be the preventive program for monitoring mechanical equipment and tools to ensure they are appropriate for the job or working conditions and are in good working order.
   - Feedback: Will provide a method for employees to notify management about conditions with potential ergonomic hazards.
3. Administrative Controls - are procedures and methods, typically instituted by the employer to assist in reducing the duration, frequency and severity of exposures to ergonomic hazards by altering the way in which work is performed. Options include:

- Pacing - reducing the total number of repetitions per hour.
- Breaks - providing short rest periods to relieve fatigue. Remember the 20-20-20 Rule. Every 20 minutes, take a 20 second break, look 20 feet away and exercise
- Job rotation - periodically rotating to a different task involving different movements.
- Personal Protective Equipment - Personal protective equipment (PPE) should never be used as a substitute for engineering, work practices or administrative controls. All PPE must be used in conjunction with other hazard control methods. The management element of the PPE program is the evaluation of equipment, procedures and processes needed to protect against the hazard.

Medical Management:

Prompt and effective medical management will be provided whenever an employee has identified signs or symptoms of an ergonomic injury or illness.

1. Medical management will include an assessment or evaluation of the work space and the employee’s symptoms. It will also include establishing work restrictions and reasonable accommodations based on the Designated Medical Provider’s (DMP) report and recommendations.
2. Symptoms may include the following:
   - Numbness, tingling or burning in the fingers
   - Pain in the wrists, neck, shoulders, back, legs or feet
   - Loss of grip, cramping or muscle weakness
   - Fatigue or abnormal tiredness
3. Employees are instructed to report ergonomically related symptoms to their supervisors and complete the BSC Incident Report within 24 hours of the employee’s first signs or symptoms. The completed form will be filed with the BSC Safety and Security Office within 24 hours.
4. An immediate request for an Ergonomic Assessment is recommended and if medical treatment is necessary, a WSI First Report of Injury must be filed with the BSC Safety and Security Office proceeding the first date of medical treatment. (REMEMBER THE 24 HOUR REPORTING REQUIREMENT).
5. Information regarding the employee’s job will be provided to the DMP to help ensure medical management is effective.

Training:

All employees will be educated about MSD signs and symptoms, risk factors and control measures.
Program Evaluation:

Evaluation of the ergonomics process and controls will be conducted periodically, to monitor administration, management and compliance with requirements.

REPORT ANY PHYSICAL SIGNS OF ERGONOMIC STRESS TO YOUR SUPERVISOR OR BSC SAFETY & SECURITY OFFICE IMMEDIATELY. Use the BSC Incident Report Form: https://core.bismarckstate.edu/departments/sa/sas/default.aspx?RootFolder=%2Fdepartments%2Fsas%2Fshared%20Documents%2FForms%2FWaivers&FolderCTID=0x0120001DDC82A4100FA047984B7C67FB2028A1&View={D7DF3131-C533-403F-AE79-8A4CA9746193}

References:

NDSU Risk Management Program

History of this Policy:

First draft reviewed by the Loss Control Committee on April 23, 2014, reviewed by the Operations Council on May 14, 2014 and revised/approved by the Executive Council May 30, 2014.
Musculoskeletal Disorders (MSD)  
Symptoms and Prevention

Symptoms can occur in any part of the body, but appear most frequently in the muscles and tendons of the upper limbs. The results are fatigue and inflammation. This can sometimes be misdiagnosed as they can be caused by other medical related problems. Eye strain and discomfort are also problems that can be avoided.

Fatigue or tiredness in muscles or joints is your body’s way of telling you to change your pattern of working. Doing the same motion over and over or using certain types of positions or grips can cause pain and inflammation. Some of the most common conditions and concerns are:

1. **Tendonitis** - inflammation of the tendons. It can be caused by performing repeated motions incorrectly or in an awkward position.
2. **Tenosynovitis** - a condition in which both the tendon and its covering become inflamed. This can be caused by improper or repetitive bending of the wrist.
3. **Carpal Tunnel Syndrome** - painful squeezing of the median nerve in the wrist. It causes loss of grip, muscle pain, weakness, numbness in the thumb and first two fingers.
4. **Cumulative Trauma Disorders (CTD’s)/ Repetitive Motion Injuries**
5. **(RMI’s)** - are defined as those disorders that are caused or aggravated by repeated exertion or movements of the body.
6. **Risk Factors** - are elements or components of a task that increase the probability of cause or contribution to musculoskeletal disorders (MSDs). Musculoskeletal disorders are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage and spinal disks.
7. **Common symptoms include:**
   - Sore and painful joints. Pain in wrists, shoulders, forearms, knees and legs
   - Pain, tingling or numbness in hands, palms or feet. Fingers or toes turning white
   - Back or neck pain, headaches, dry burning eyes and blurred vision
   - Swelling or inflammation, stiffness or burning sensation
   - Loss of muscle function, strength or coordination and decreased movement
   - Difficulties performing daily activities

Occupational and Personal Risk Factors that may lead to Musculoskeletal Disorders (MSDs):

1. **Repetition:**
   - Long or concentrated hours of keyboarding or using a mouse
   - Head movement between copy and monitor - eyes refocusing
2. **Awkward Positions:**
   - Repeated or prolonged reaching, twisting, bending, kneeling, squatting
   - Working overhead with your hands or arms - bent wrists
   - Neck rotation or side bending - slouching
   - Staying in a fixed position for long period of time
3. **Forceful Exertions:**
   - Lifting, carrying, pushing, pulling, poor body mechanics
   - Pinching, grasping, keying, mousing, writing, stapling, hammering, etc.
4. **Contact Stress:**
• Resting or pressing the body against a hard or sharp edge which causes too much pressure and may cause damage to nerves, tendons and blood vessels

5. Vibration:
• Operating vibrating tools such as sanders, grinders, chippers, routers, drills and other saws can lead to nerve damage

6. Environmental:
• Heat, cold, ice, water, humidity, etc.
• Seating, work surface, storage, lighting, air quality, noise, privacy

7. Psychosocial Issues:
• Interaction with co-workers, job satisfaction, time pressures, performance measures

8. Smoking:
• Constricts blood vessels, reduces oxygen to body, coughing (mechanical strain)

9. Medical Factors:
• Previous injury, illness or hereditary and congenital conditions

10. Other contributing factors that can result in similar symptoms:
• Age and gender – women are more susceptible than men
• Pregnancy and contraceptives
• Hobbies, sports activities, fishing, etc.
• Diseases and illnesses (diabetes, kidney disease, lupus, hypothyroidism, MS, etc.)
• Obesity
• Smoking/tobacco
• Alcoholism and drugs
• Sleeping postures

Prevention Tips
1. Adjust your work area to fit you. A comfortable work environment benefits both you and your employer.
2. Request an assessment from the Safety and Security Office.
3. Stretch every 20 to 40 minutes to relieve physical tension and body aches. Stretching can increase your productivity.
4. Change your work pattern so you are not doing the same motion over and over.
5. If you can, lean or sit rather than stand for long periods of time.
6. Work with your wrists straight – neutral posture.
7. Avoid twisting and bending at the same time.
8. Lift by using your legs and buttocks. Bend your knees and keep your head, back and hips in a straight line. Never bend over to pick anything up - bend at your knees first.
9. Request assistance when necessary and use mechanical assist when possible. It is everyone’s responsibility to help identify poor ergonomic practices in the workplace. Managers, supervisors, employees, engineers, and health professionals shall work as a team to correct existing ergonomic problems and train in early identification of potential problems.