North Dakota State University
Ergonomics Program

I. Introduction

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.

II. 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.

III. Goals

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

IV. Management Leadership & Employee Responsibility

1. Policy Statement: To establish a comprehensive safety policy that facilitates the protection of life and property by providing a safe University work and learning environment that is free of recognized hazards that could cause injury, illness or property damage. The University President's Safety Policy 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.
    a. **Management/Program Administrator will:**
        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.

b. Supervisors will:

1. Enforce reporting of signs and symptoms of MSDs and MSD hazards and to make recommendations about appropriate ways to control them.
2. Reporting procedures 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 designated program administrator for action and response.

c. Employees will:

1. Attend mandatory training.
2. Report ergonomic risks and hazards immediately.
3. Report every incident, injury, illness and near miss immediately to their supervisor and the Safety Office.
4. Review and comply with the Ergonomics Program and control methods
5. Provide comments, recommendations, and suggestions and forward them to the designated program administrator for action and response

V. Procedure

The purpose of the job 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.

1. The following points must be considered when analyzing a job for ergonomic problems:
    a. Weight of the objects being handled
    b. Repetitions of certain movements or tasks
    c. Rate/duration of job task
    d. Appropriateness of tools/equipment
    e. Body position and mechanics
    f. Force of grip and amount of exertion
    g. Environmental conditions
    h. Training

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

3. 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.

4. Obtain information from employees related to repetitive motion symptoms and risk factors. The earlier you can identify a repetitive motion problem, the more likely you are to do something about it. Pay attention to warning signs such as pain and soreness. Be alert to the symptoms of numbness, tingling and apparent loss of strength of muscles.

5. 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:

   a. **Tendonitis** - inflammation of the tendons. Can be caused by performing repeated motions incorrectly or in an awkward position.
   b. **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.
   c. **Carpal Tunnel Syndrome** - painful squeezing of the median nerve in the wrist. Causes loss of grip, muscle pain, weakness, numbness in the thumb and first two fingers.
   d. **Cumulative Trauma Disorders (CTD's)/ Repetitive Motion Injuries (RMI's)** - are defined as those disorders that are caused or aggravated by repeated exertion or movements of the body.
   e. **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. Common symptoms include:
      1. Sore and painful joints. Pain in wrists, shoulders, forearms, knees and legs
      2. Pain, tingling or numbness in hands, palms or feet. Fingers or toes turning white
      3. Back or neck pain, headaches, dry burning eyes and blurred vision
      4. Swelling or inflammation, stiffness or burning sensation
      5. Loss of muscle function, strength or coordination and decreased movement
      6. Difficulties performing daily activities

When any of these symptoms appear, it is time to evaluate the job and look for ways to limit repetitive motions. Immediately report these symptoms to your supervisor, complete an incident report, and schedule an evaluation through the University Police and Safety Office. If the problem persists or reoccurs, medical attention may be needed.

6. **Occupational and Personal Risk Factors that may lead to Musculoskeletal Disorders (MSDs)**:
    - **a.** Repetition:
        1. Long or concentrated hours of keyboarding or using a mouse
        2. Head movement between copy and monitor - eyes refocusing
    - **b.** Awkward Positions:
        1. Repeated or prolonged reaching, twisting, bending, kneeling, squatting
        2. Working overhead with your hands or arms - bent wrists
        3. Neck rotation or side bending - slouching
        4. Staying in a fixed position for long period of time
    - **c.** Forceful Exertions:
        1. Lifting, carrying, pushing, pulling, poor body mechanics
        2. Pinching, grasping, keying, mousing, writing, stapling, hammering, etc.
    - **d.** Contact Stress:
        1. 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
    - **e.** Vibration:
        1. Operating vibrating tools such as sanders, grinders, chippers, routers, drills and other saws can lead to nerve damage
    - **f.** Environmental:
        1. Heat, cold, ice, water, humidity, etc.
        2. Seating, work surface, storage, lighting, air quality, noise, privacy
        3. Psychosocial Issues:
            a. Interaction with co-workers, job satisfaction, time pressures, performance measures
    - **g.** Smoking:
        1. Constricts blood vessels, reduces oxygen to body, coughing (mechanical strain)
    - **h.** Medical Factors:
        1. Previous injury, illness or hereditary and congenital conditions
    - **i.** Other contributing factors that can result in similar symptoms:
        1. Age and gender – women are more susceptible than men
        2. Pregnancy and contraceptives
        3. Hobbies, sports activities, fishing, etc.
        4. Diseases and illnesses (diabetes, kidney disease, lupus, hypothyroidism, MS, etc.)
        5. Obesity
        6. Smoking/tobacco

7. Alcoholism and drugs
8. Sleeping postures

8. Procedures for Prevention & Control

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

a. **Engineering Controls –** are the physical changes to jobs that control exposure to MSD hazards, and where feasible, are the preferred method for controlling MSD hazards.
   1. 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.
   2. Work Method Design: Work methods shall be designed to reduce static, extreme or awkward postures, repetitive motion and excessive force.
   3. 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.

b. **Work practices** - provides control based upon the behavior of managers, supervisors and employees to follow proper work methods. It will include several elements which will require education and hands on training.
   1. Proper work techniques: Includes training on the correct lifting procedures and correct use of ergonomically designed work stations, fixtures and tools.
   2. 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.
   3. Inspections: Shall be conducted periodically to ensure safe operating procedures are being followed.
   4. 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.
   5. Feedback: Will provide a method for employees to notify management about conditions with potential ergonomic hazards.

c. **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:
   1. Pacing - reducing the total number of repetitions per hour.
   2. 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
   3. Job rotation - periodically rotating to a different task involving different movements.

4. 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.

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

a. 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. Symptoms may include the following:
    1. Numbness, tingling or burning in the fingers
    2. Pain in the wrists, neck, shoulders, back, legs or feet
    3. Loss of grip, cramping or muscle weakness
    4. Fatigue or abnormal tiredness
b. Employees are instructed to report ergonomically related symptoms to their supervisors and complete the NDSU Incident Report within 24 hours of the employee's first signs or symptoms. The completed form will be filed with the NDSU Claims Specialist within 24 hours.
c. A request for an Ergonomic Assessment is recommended immediately and if medical treatment is necessary, a WSI First Report of Injury must be filed with the Claims Specialist proceeding the first date of medical treatment**. (REMEMBER THE 24 HOUR REPORTING REQUIREMENT)**.
d. Information regarding the employee's job will be provided to the DMP to help ensure medical management is effective

10. Training – Educate all employees about MSD signs and symptoms, risk factors and control measures. Include mandatory supervisor training on basic awareness and the identification of ergonomic risks.

a. *Baseline Safety Training*

b. *Ergonomic Training*

c. *Supervisor Training*

11. Program Evaluation – evaluation of the ergonomics process and controls will be conducted periodically, and at least once a year, to monitor administration, management and compliance with requirements.

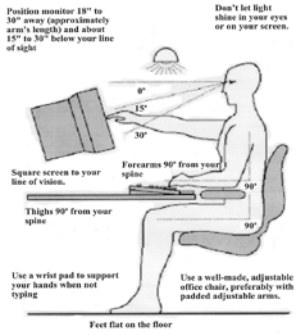
12. Points to Remember

a. Adjust your work area to fit you. A comfortable work environment benefits both you and your employer.
b. Request an assessment from the Safety Office.
c. Stretch every 20 to 40 minutes to relieve physical tension and body aches. Stretching can increase your productivity.
d. Change your work pattern so you are not doing the same motion over and over.
e. If you can, lean or sit rather than stand for long periods of time.
f. Work with your wrists straight – neutral posture.
g. Avoid twisting and bending at the same time.
h. 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.
i. 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.

REPORT ANY PHYSICAL SIGNS OF ERGONOMIC STRESS TO YOUR SUPERVISOR OR CLAIMS SPECIALIST IMMEDIATELY.

NDSU Ergonomic Guide Below



NDSU Ergonomic Guide

Problem	Possible Causes	Try This!
Headaches	Muscular tension	Frequent breaks and stretching exercises
	Stress	Stress management & body stretches
	Vision	Recommend eye exam or move the monitor
	Head extended forward or tilted	Adjust the monitor
Irritated & Dry Eyes	Distance of the monitor	Position monitor for your vision
	Prolonged computer use	Take frequent mini breaks
	Size of the font/characters	Adjust for your vision – larger/smaller
	Glare on the monitor	Provide glare screen, move monitor, task lighting
	Color of the print	Dark font on light background
	Dusty and dirty screen	Keep screen dusted and clean
	Lighting	Increase/decrease lighting or task lighting
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
	Vision	Recommend eye exam
Neck Pain	Poor head posture Tilted up, back, forward or to the side	Adjust the monitor height Adjust the monitor distance Adjust the monitor location – straight ahead Use a document holder – in front of monitor
	Bifocals	Drop the monitor down
	Arms extended	Move the keyboard and mouse closer
	Shoulders elevated/raised	Drop the armrest Maintain neutral posture – relax shoulders
	Armrest high/low	Adjust properly – maintain 90˚ angle
	Poor work habits/posture	Use equipment and time properly Use proper body posture and body mechanics
	Phone	Avoid cradling the phone, use headset/rest
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
Shoulder Pain	Shoulders elevated/raised	Drop the armrest Maintain neutral posture – relax shoulders
	Arms extended	Move the keyboard and mouse closer
	Armrest high/low	Adjust properly – maintain 90˚ angle Avoid leaning on elbows
	Poor work habits/posture	Use equipment and time properly Use proper body posture and body mechanics
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
	Poor conditioning	Strength/stretching exercises
	Forward head posture	Check monitor position
	Overhead reaching/lifting	Organize workstation – Circle of Power
	Cradling the phone	Use fixed headset/rest or speaker phone
Elbow Pain	Keyboard too high	Maintain elbows at 90˚ angle
	Leaning on elbows	Adjust arm rest of the chair & sit-up straight
	Pressure points	Avoid sharp edges of the desk
	Prolonged repetition	Avoid prolonged repetition & take mini breaks
	Pinch gripping	Avoid pinch gripping or choking the mouse
	Striking keys too hard	Check keyboard for problems & address stress
	Reaching for mouse or keyboard	Maintain elbows at 90˚& move closer to work
	Reaching for the phone	Move phone closer to the operator
	Lifting binders/material that are too large/heavy	Maintain material in smaller binders and maintain an acceptable load limit
	Pulling/lifting & extreme exertion	Push instead of pull & use legs and hips for lifting
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away

Problem	Possible Causes	Try Possible Solutions
Wrist & Forearm Pain	Keyboard/mouse positioning	Align elbows with the keyboard and mouse Reduce edges and pressure points
	Repetitive Motion	Reduce the number of motions Job rotation
	Contact forces/ pinch points	Avoid pinch/contact points and resting on elbows
	Striking keys too hard	Replace keyboard if keys are sticking Take a stress break and back away from work
	Choking the mouse	Use a smaller mouse or one that fits your hand Slow down the cursor
	Gripping too tight	Use smaller binders Use ergonomic pens, pencils, tools, etc.
	Wrist alignment	Hands in neutral posture and elbows at 90˚ Trim long finger nails – interferes with neutral posture
	Wrist rest	Provide wrist that is proper height
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
Hand & Finger Pain	Excessive force-keyboard/mouse	Replace keyboard if keys are sticking Take a stress break and back away from work
	Type of mouse	Use a smaller mouse or one that fits your hand
	Wrist alignment	Hands in neutral posture and elbows at 90˚ Use tools that encourage proper positioning
	Gripping too tight	Use ergonomic pens, pencils, tools, etc. Avoid awkward positions
	Keyboard/mouse positioning	Align elbows with the keyboard and mouse
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
Low Back Pain	Poor conditioning	Strength and stretching exercises
	Sitting forward in the chair	Address posture Adjust the seat pan depth and arm rests Move closer to your work Keyboard centered – not to the side or angled
	Lack of lumbar support	Provide chair with adjustable lumbar support
	Feet dangling	Adjust chair height or provide foot rest
	Lack of an adjustable seat pan	Provide chair with adjustments
	Elevated shoulders	Maintain neutral posture and elbows at 90˚
	Arms extended	Move closer to your work and elbows at 90˚
	Lifting/Carrying	Follow proper lifting/carrying procedures
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away
Leg & Feet	Pressure on the back of the knees	Adjust seat pan depth (2-3 fingers width)
	Crossing legs	Address posture and work practices
	Feet dangling	Adjust chair height or provide foot rest
	Lack of frequent mini breaks	Every 20 minutes/20 sec. break/look 20 ft. away

North Dakota State University
Back Safety/Safe Lift Program Action Plan
Ergonomic Assessment and Control Methods

The following information identifies the departments, areas, and jobs with risk factors through a review of University reports, records, and observations. Provided are also the recommendations to control ergonomic hazards based on the job analyses and pooling ideas from employees, management, and other affected and interested parties.

Position	Hazards and risks	Corrective Action/Control Methods
New Hires & All Employees	❖ Lack of knowledge and experience ❖ Poor posture ❖ Improper body mechanics ❖ Stressful working habits ❖ Loss of strength and flexibility ❖ General decline in physical fitness ❖ Sitting or standing in a forward slumped position ❖ Prolonged standing on hard or uneven surfaces ❖ Forward bending and lifting ❖ Improper lifting, twisting and falls ❖ Backward bending (hyperextension) ❖ Lateral bending (side bending) ❖ Carrying and reaching ❖ Squatting and kneeling ❖ Pushing and pulling ❖ Repetitive motion ❖ Forceful exertion ❖ Static exertion ❖ Speed of movement ❖ Duration and frequency of task performed ❖ Exposure to extreme temperatures ❖ Smoking ❖ Obesity	❖ Train in the basic principles of ergonomics and body mechanics - what are Muscular Skeletal Disorders (MSD) and risk factors ❖ Train on the reporting requirements and the Risk Management Program ❖ Train in the importance of requesting an ergonomic assessment of the workstation or work process ❖ Instruct on proper use and handling of equipment ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance and force of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Reduce lifting and lowering requirements ❖ Reduce the force or pressure on the wrists and hands ❖ Assign the job to two or more people ❖ Perform periodic visits looking for proper operator posture, and recommend modifications necessary to minimize back, neck and arm strain ❖ Conduct investigation follow-up on incidents/injuries

		❖ Put engineering controls in place as needed (redesign, improve tools, handles or hand-grip, installation of mechanical assists) ❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Include plans for future expansion, remodeling and building appropriate workstation design ❖ Provide time for employees to exercise, and stretch at their workstations periodically throughout the day ❖ Train in proper work methods, use of job rotation, rest breaks, etc. ❖ Create alternative tasks ❖ Provide recommended and required PPE (Personal Protective Equipment), (vibration attenuation gloves, wrist supports, etc.) ❖ Provide stools, sit/stand bars, foot rails in jobs requiring standing work ❖ Incorporate a work break-in period for new hires so they can be conditioned ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Provide frequent mini breaks ❖ Implement housekeeping programs to prevent slips and falls ❖ Provide Smoking Cessation Program
Agriculture	❖ Whole-body fatigue, bent and twisted back postures ❖ Lifting and moving equipment ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Kneeling ❖ Repetitive motion ❖ Whole body vibration ❖ Overexertion ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use

		❖ Other control methods listed for all employees
Animal Care	❖ Whole-body fatigue, bent and twisted back postures ❖ Lifting, carrying ❖ Pushing and pulling ❖ Squatting, kneeling ❖ Forceful exertion ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Train in proper work methods, use of job rotation, rest breaks, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Install mechanical system to carry the milking equipment ❖ Other control methods listed for all employees
Archivist	❖ Pushing and pulling carts, books and library material ❖ Lifting and unloading books and library material ❖ Repetitive motion ❖ Carrying and reaching ❖ Awkward postures ❖ Backward bending (hyperextension)	❖ Provide carts with less push/pull strain ❖ Train in proper work methods, use of job rotation, rest breaks, etc. ❖ Keep work at a comfortable height ❖ Put engineering controls in place as needed (redesign, improve tools and equipment) ❖ Other control methods listed for all employees
Athletics	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures ❖ Forceful exertion ❖ Exposure to extreme temperatures	❖ Provide education, back safety training and physical fitness activities ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Other control methods listed for all employees

Bakery	❖ Lifting ❖ Reaching and extending ❖ Pushing and pulling ❖ Repetitive motion ❖ Awkward postures ❖ Prolonged standing	❖ Provide education, back safety training and physical fitness activities ❖ Provide equipment and facility improvements (material handling equipment) ❖ Recommend lifting or scissor tables at ingredient-addition points ❖ Provide anti-fatigue mats ❖ Provide adjustable work surface – a sit/stand work option ❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Other control methods listed for all employees
Boiler Operator	❖ Lifting and moving equipment and ash ❖ Pushing and pulling ❖ Bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Climbing ❖ Reaching ❖ Prolonged standing ❖ Duration and frequency of task ❖ Awkward postures in tight spaces ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Use mechanical devices whenever possible ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Establish the maximum acceptable reach ❖ Utilize self-pacing and pauses ❖ Reduce the distance of pushing and pulling ❖ Provide engineering controls (lifts)to minimize or eliminate the risk factors associated with sustained postures, lifting and carrying

		❖ Follow all manufacturer's recommendations for proper equipment use ❖ Other control methods listed for all employees
Bookstore	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Prolonged standing	❖ Provide anti-fatigue mats ❖ Provide engineering controls (lifts)to minimize or eliminate the risk factors associated with sustained postures, lifting and carrying ❖ Use proper lifting techniques to minimize back stresses ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Carpenters	❖ Lifting, bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Pushing and pulling ❖ Repetitive motion ❖ Prolonged standing ❖ Kneeling ❖ Awkward posture ❖ Duration and frequency of task ❖ Use of equipment and tools ❖ Exposure to extreme temperatures	❖ Provide engineering controls (lifts)to minimize or eliminate the risk factors associated with sustained postures, lifting and carrying ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Use ergonomic designed tools ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Establish the maximum acceptable reach ❖ Use knee pads and increase use of a hand-operated power stretcher ❖ Train in proper work methods, use of job rotation, rest breaks, etc. ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc.

		❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Central Stores	❖ Lifting and moving material ❖ Pushing and pulling ❖ Reaching above shoulder height, below waist level or behind the body ❖ Awkward postures in tight spaces	❖ Provide engineering controls (lifts)to minimize or eliminate the risk factors associated with sustained postures, lifting and carrying ❖ Use proper lifting techniques to minimize back stresses ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Child Care	❖ Lifting children ❖ Frequent bending, kneeling and squatting ❖ Awkward postures	❖ Provide furniture and fixtures at appropriate adult heights ❖ Use proper lifting techniques to minimize back stresses ❖ Other control methods listed for all employees
Construction	❖ Lifting and moving material ❖ Crawling, kneeling and squatting ❖ Pushing and pulling ❖ Pounding, forceful pressing ❖ Reaching above shoulder height, below waist level or behind the body ❖ Repetitive motion ❖ Awkward postures in tight spaces ❖ Improperly designed tools ❖ Exposure to extreme temperatures	❖ Design jobs to reduce injury ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Use mechanical devices for lifting and moving material ❖ Use power actuated tools ❖ Provide properly designed tools for the job ❖ Use counter-balanced support devices for larger, heavier tools ❖ Provide adequate PPE ❖ Reduce time or need to hold vibrating tools ❖ Train on proper procedures

		❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Copy & Print Shop	❖ Lifting and moving material ❖ Pushing and pulling ❖ Twisting and bending ❖ Reaching ❖ Prolonged Standing ❖ Repetitive motion	❖ Establish the maximum acceptable reach ❖ Reduce the number of repetitions per employee ❖ Utilize job rotation ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Provide anti-fatigue mats ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Custodians	❖ Use of backpack vacuum cleaner ❖ Use of scrubbers ❖ Lifting and moving furniture and equipment ❖ Lifting and carrying ladders ❖ Lifting and dumping mop pails ❖ Pulling, pushing, and lifting garbage bags ❖ Set up and tear down for special events ❖ Repetitive motion ❖ Snow and ice removal ❖ Exposure to extreme temperatures ❖ Reaching ❖ Stoop, kneel, crouch or crawl	❖ Train employees in proper use of the backpack vacuum and periodically monitor its use and fit ❖ Allow employees some flexibility in choice of equipment for a cleaning task ❖ Train workers in proper lifting procedures ❖ Provide engineering controls (lifts) to minimize or eliminate the risk factors associated with sustained postures, lifting and carrying ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions

		❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Make back support belts available if ordered by a physician and train employees in their proper use (belts are discouraged for general use as there is a concern they cause weakened back muscles) ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Delivery Truck	❖ Lifting and moving material ❖ Pushing and pulling ❖ Exposure to extreme temperatures ❖ Moving loads from truck-floor level to the ground	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Implement programs to prevent slips and falls ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Other control methods listed for all employees
Dining Services	❖ Lifting ❖ Reaching and extending ❖ Repetitive motion ❖ Awkward postures ❖ Prolonged standing ❖ Static wok	❖ Provide education, back safety training and physical fitness activities ❖ Provide equipment and facility improvements (material handling, and scanning equipment) ❖ Provide adjustable work surface – a sit/stand work option

		❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Electricians	❖ Lifting and moving material ❖ Pushing and pulling ❖ Squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Prolonged standing ❖ Repetitive motion ❖ Duration and frequency of task ❖ Awkward postures in tight spaces ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Extension Agents	❖ Lifting and moving material ❖ Pushing and pulling ❖ Carrying and reaching ❖ Prolonged sitting and standing	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees

Farming/Machinery	❖ Whole-body fatigue, bent and twisted back postures ❖ Lifting and moving equipment ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Kneeling ❖ Repetitive motion ❖ Whole body vibration ❖ Overexertion ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Farming/Ranching	❖ Whole-body fatigue, bent and twisted back postures ❖ Lifting and moving equipment ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Kneeling ❖ Repetitive motion ❖ Whole body vibration ❖ Overexertion ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Fire Fighter	❖ Lifting and moving heavy material ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Bend, stoop, climb, kneel, crawl ❖ Carrying heavy equipment ❖ Strenuous exertion for extended periods of time ❖ Steep and uneven terrain	❖ Meet rigid training & physical fitness standards ❖ Provide adequate and required PPE ❖ Identify and locate escape routes & safety zones ❖ Provide education, back safety training and physical fitness activities ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc.

	❖ Exposure to extreme temperatures	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Forest Service Work	❖ Lifting and moving material ❖ Pushing and pulling ❖ Stooping, bending, carrying and reaching ❖ Repetitive motion ❖ Squatting and kneeling ❖ Awkward postures in tight spaces ❖ Exposure to extreme temperatures	❖ Provide adequate and required PPE ❖ Provide education, back safety training and physical fitness activities ❖ Use mechanical lifts to assist with awkward loads ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Implement housekeeping programs to prevent slips and falls ❖ Other control methods listed for all employees
Gallery	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures ❖ Sitting, standing	❖ Use lift tables, work dispensers and simple mechanical aids/carts ❖ Maintain acceptable weight levels for art work/containers ❖ Reduce number of objects lifted or lowered at one time ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions

		❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Heavy Equipment Operator	❖ Climbing ❖ Awkward postures ❖ Repetitive motion ❖ Pushing and pulling ❖ Exposure to extreme temperatures ❖ Whole body vibrations	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Provide frequent mini breaks and job rotation ❖ Provide anti-fatigue gloves ❖ Other control methods listed for all employees
HVAC	❖ Lifting, bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Repetitive motion ❖ Pushing and pulling ❖ Prolonged standing ❖ Duration and frequency of task ❖ Awkward postures in tight spaces ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Implement housekeeping programs to prevent slips and falls ❖ Provide education, back safety training and physical fitness activities ❖ Use mechanical lifts to assist with awkward loads

		❖ Provide properly designed tools for the job ❖ Use counter-balanced support devices for larger, heavier tools ❖ Instruct on proper use and handling of equipment and Personal Protective Equipment ❖ Reduce time or need to hold vibrating tools ❖ Other control methods listed for all employees
Incinerator Worker	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Forceful exertion ❖ Exposure to extreme temperatures	❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Implement housekeeping programs to prevent slips and falls ❖ Provide adequate and required PPE ❖ Provide education, back safety training and physical fitness activities ❖ Use mechanical lifts to assist with awkward loads ❖ Other control methods listed for all employees
Information Tech	❖ Lifting and moving material ❖ Pushing and pulling ❖ Repetitive motion ❖ Awkward postures in tight spaces ❖ Prolonged exertion	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees

Landscapers	❖ Lifting, bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Pushing and pulling ❖ Prolonged standing, walking ❖ Riding equipment ❖ Repetitive motion ❖ Duration and frequency of task ❖ Awkward postures in tight spaces ❖ Exposure to extreme temperatures	❖ Modify shovel handle (mount second shaft on handle) ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Provide adequate and required PPE ❖ Provide education, back safety training and physical fitness activities ❖ Use mechanical lifts to assist with awkward loads ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Implement housekeeping programs to prevent slips and falls ❖ Instruct on proper use and handling of equipment ❖ Perform periodic visits looking for proper operator posture, and recommend modifications necessary to minimize back, neck and arm strain ❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists) ❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Other control methods listed for all employees
Librarians	❖ Pushing and pulling carts, books and library material ❖ Lifting and unloading books and library material ❖ Repetitive motion ❖ Carrying and reaching	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly

	❖ Backward bending (hyperextension)	❖ Reduce the distance of pushing and pulling ❖ Provide carts with less push/pull strain ❖ Train in proper work methods, use of job rotation, rest breaks, etc. ❖ Keep work at a comfortable height ❖ Put engineering controls in place as needed (redesign, improve tools and equipment) ❖ Other control methods listed for all employees
Mail Carrier	❖ Lifting and moving material ❖ Pushing and pulling ❖ Repetitive motion ❖ Carrying awkward loads ❖ Exposure to extreme temperatures	❖ Use lift tables, work dispensers and simple mechanical aids/carts ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Maintain acceptable weight levels for mail bags/containers ❖ Reduce number of objects lifted or lowered at one time ❖ Other control methods listed for all employees
Meat Processing	❖ Cleaning heavy tubs ❖ Shank trimming/cutting ❖ Repetitive forceful exertion ❖ Removing internal organs ❖ Pushing and pulling ❖ Lifting and carrying animal parts ❖ Awkward postures ❖ Bending, twisting, reaching ❖ Prolonged standing on hard surfaces ❖ Exposure to extreme temperatures	❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists) ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Provide anti-fatigue mats ❖ Utilize job rotation ❖ Provide comprehensive knife and scissor sharpening program ❖ Provide recommended and required PPE

		❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Other control methods listed for all employees
Mechanics	❖ Lifting, bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Pushing and pulling ❖ Prolonged standing ❖ Duration and frequency of task ❖ Awkward postures in tight spaces	❖ Provide redesigned tools, fixtures, and work organization ❖ Instruct on proper use and handling of equipment ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Perform periodic visits looking for proper operator posture, and recommend modifications necessary to minimize back, neck and arm strain ❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists) ❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Other control methods listed for all employees
Merchandizing	❖ Lifting and moving material ❖ Pushing and pulling ❖ Repetitive motion ❖ Awkward postures in tight spaces ❖ Prolonged standing	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Provide anti-fatigue mats ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Office Workers	❖ Twisting and bending ❖ Awkward postures ❖ Lifting, lowering, carrying	❖ Provide adjustable work surface – a sit/stand work option

	❖ Pushing and pulling ❖ Prolonged sitting, standing ❖ Non-adjustable chairs ❖ Inadequate work surface ❖ Repetitive motion ❖ Lack of proper equipment ❖ Effects of undesirable environmental conditions	❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Provide frequent mini breaks ❖ Train on how to adjust workstations and how to recognize signs/symptoms of repetitive stress ❖ Provide anti-fatigue mats for prolonged standing ❖ Eliminate or minimize effects such as excessive noise, heat, humidity, cold and poor illumination ❖ Other control methods listed for all employees
Painters	❖ Lifting, bending, squatting and twisting ❖ Backward bending (hyperextension) ❖ Reaching ❖ Pushing and pulling ❖ Prolonged standing ❖ Repetitive motion ❖ Duration and frequency of task ❖ Awkward postures ❖ Climbing ladders and scaffolds ❖ Repetitive motion	❖ Instruct on proper use and handling of equipment ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Perform periodic visits looking for proper operator posture, and recommend modifications necessary to minimize back, neck and arm strain ❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists) ❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Take frequent mini breaks ❖ Other control methods listed for all employees
Pesticide Techs	❖ Lifting and moving material ❖ Pushing and pulling ❖ Carrying, reaching, stooping, bending ❖ Awkward postures	❖ Instruct on proper use and handling of equipment and Personal Protective Equipment ❖ Follow all manufacturer's recommendations for proper equipment use

	❖ Exposure to extreme temperatures ❖ Use of PPE	❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Perform periodic visits looking for proper operator posture, and recommend modifications necessary to minimize back, neck and arm strain ❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists) ❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Take frequent mini breaks ❖ Other control methods listed for all employees
Pharmacy staff	❖ Lifting and moving material ❖ Pushing and pulling ❖ Repetitive motion ❖ Prolonged standing ❖ Twisting and bending ❖ Awkward postures	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Provide anti-fatigue mats ❖ Other control methods listed for all employees
Plant Science/ Path Techs	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures in tight spaces ❖ Repetitive motion ❖ Forceful exertion ❖ Exposure to extreme temperatures	❖ Instruct on proper use and handling of equipment and personal protective equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Put engineering controls in place as needed (redesign, improve tools, installation of mechanical assists)

		❖ Clear the aisles and doorways for safe passage and maneuvering of equipment ❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Take frequent mini breaks ❖ Other control methods listed for all employees
Plumbers	❖ Lifting and moving fixtures ❖ Pushing and pulling ❖ Pounding, forceful pressing ❖ Reaching above shoulder height, below waist level or behind the body ❖ Repetitive motion ❖ Hand tools that are improperly designed ❖ Working in tight spaces and confined area ❖ Exposure to extreme temperatures	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Use mechanical devices for lifting and moving material ❖ Use power actuated tools ❖ Provide properly designed tools for the job ❖ Use counter-balanced support devices for larger, heavier tools ❖ Provide adequate PPE ❖ Reduce time or need to hold vibrating tools ❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Start new employees at a slower rate so they can be conditioned ❖ Other control methods listed for all employees
Police/Security	❖ Prolong sitting and standing ❖ Awkward postures ❖ Lifting and moving ❖ Noise (shooting practice) ❖ Exposure to extreme temperatures ❖ Weight of the uniform/belt	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Reduce the weight and size of objects that must be handled repeatedly

		❖ Consider suspenders, etc. to reduce the load of equipment belt ❖ Other control methods listed for all employees
Researcher	❖ Lifting and moving material ❖ Pushing and pulling ❖ Repetitive motion ❖ Awkward postures ❖ Prolonged sitting and standing ❖ Potential exposures ❖ Exposure to extreme temperatures	❖ Provide education, back safety training and physical fitness activities ❖ Provide equipment and facility improvements (material handling, and scanning equipment) ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Provide adjustable work surface – a sit/stand work option ❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
ROTC Storekeeper/Supply Tech	❖ Lifting and moving material ❖ Pushing and pulling ❖ Twisting and bending ❖ Awkward postures in tight spaces ❖ Prolonged standing	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Provide anti-fatigue mats ❖ Other control methods listed for all employees
Student Activities Staff	❖ Setting up stages ❖ Moving/lifting equipment ❖ Pushing and pulling	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions

		❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Telecommunications	❖ Lifting and moving equipment ❖ Pushing and pulling ❖ Stoop, kneel, crouch or crawl ❖ Reaching ❖ Awkward postures in tight spaces ❖ Repetitive motion ❖ Forceful exertion ❖ Exposure to extreme temperatures	❖ Provide adjustable work surface – a sit/stand work option ❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce weight and size of objects ❖ Use mechanical devices for lifting and moving material ❖ Use power actuated tools ❖ Provide properly designed tools for the job ❖ Use counter-balanced support devices for larger, heavier tools ❖ Provide adequate PPE ❖ Reduce time or need to hold vibrating tools ❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Take frequent mini breaks ❖ Other control methods listed for all employees
Theatre	❖ Moving/lifting props ❖ Reaching, pushing and pulling ❖ Climbing, twisting, bending, ❖ Awkward postures	❖ Provide education, back safety training and physical fitness activities ❖ Provide adjustable work surface – a sit/stand work option ❖ Provide adjustable and properly designed chairs ❖ Provide adequate and ergonomically correct equipment ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions

		❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Vehicles	❖ Lifting and moving material ❖ Moving loads from truck-floor level to the ground ❖ Pushing and pulling ❖ Prolonged sitting	❖ Train on how to adjust seats, seat belts, steering mechanisms and controls to best fit each person ❖ Reduce off-loading hazards with mechanical lifts ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Other control methods listed for all employees
Veterinarians	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures ❖ Exposure to extreme temperatures	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Vet Diagnostic Lab	❖ Lifting and moving material ❖ Pushing and pulling ❖ Awkward postures ❖ Exposure to extreme temperatures	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Eliminate or reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc.

		❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees
Welders	❖ Lifting and moving materials ❖ Pushing and pulling ❖ Bending ❖ Reaching ❖ Prolonged standing ❖ Duration and frequency of task ❖ Awkward postures ❖ Repetitive motion	❖ Design jobs to reduce injury ❖ Use mechanical devices for lifting and moving material ❖ Use power actuated tools ❖ Provide properly designed tools for the job ❖ Use counter-balanced support devices for larger, heavier tools ❖ Provide adequate PPE ❖ Reduce time or need to hold vibrating tools ❖ Reduce exposure to extreme temperatures – frequent breaks, proper clothing, hydration, etc. ❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Establish the maximum acceptable reach ❖ Take frequent mini breaks ❖ Other control methods listed for all employees
Wellness Center Staff	❖ Lifting and moving materials ❖ Pushing and pulling ❖ Standing, bending ❖ Climbing	❖ Modify the task or the process to eliminate the frequent repetitions, stressful postures, or muscle exertions ❖ Follow all manufacturer's recommendations for proper equipment use ❖ Reduce the weight and size of objects that must be handled repeatedly ❖ Reduce the distance of pushing and pulling ❖ Other control methods listed for all employees