

Ergonomic Assessment Team:

A Self-Guided Working Package

Ergonomic Assessment Team:

A Self-Guided Working Package

Introduction

The most common injury in Ontario's forest industry is no different from what happens in other industrial sectors – gradual damage to muscles, ligaments, tendons or nerves as a result of repetitive, forceful or awkward movements. Strain & sprain injuries, also known as musculoskeletal disorders (MSD), have accounted for more than one-third of all forestry lost-injuries in recent years. The percentage of such injuries is even higher in sawmills and veneer/plywood and other board mills, where so many work processes involve repetitive physical activities over prolonged periods.

Under Ontario's Occupation Health and Safety Act, employers are required to take every reasonable precaution to protect workers from hazards resulting in strains & sprains. One important way to do this is to establish an ergonomic assessment team in your workplace and provide it with the necessary tools to recognize, assess, control and monitor strain & sprain hazards.

The Ontario Ministry of Labour states that employers, in consultation with workers, are responsible for:

- Ensuring that hazards related to poor design of tools, equipment, work stations or work practices are identified and the risks controlled;
- Ensuring that all workers have been provided with adequate equipment for required tasks;
- Ensuring that workers have information, instruction or training in the use of equipment and work practices;
- Encouraging and reinforcing proper working techniques;
- Encouraging early reporting of an injury or symptoms.

Strains & sprains affect muscles, tendons, nerves, ligaments and joints in various parts of the body. The key hazards for work-related strains & sprains are the force, posture, repetition and duration involved in performing a particular job or task. Other risk factors such as stress and workload may also play an important role.

This self-guided working package is intended to promote the Internal Responsibility System by providing a step-by-step process for the establishment and operation of an ergonomic assessment team. Ergonomics is the study of the physical and mental demands of work on individual workers. By analysing the physical demands of a job and identifying strain & sprain hazards, controls can be put in place to eliminate those hazards.

The self-guided working package is not designed to solve all problems but to provide some insight into why injuries may be occurring and to help employers, supervisor and workers develop effective solutions. In some cases, a professional ergonomist may be needed to review the problem to help solve the issue. The Ontario Forestry Safe Workplace Association has district Consultant Trainers and an Ergonomist who can help firms resolve ergonomic issues. OFSWA also has training and information resources that focus on the elimination of strains & sprains from forestry workplaces.

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 1 – Setting up the team

A good starting point is to have an ergonomic assessment team that reports to the Joint Health and Safety Committee (JHSC). The ergonomic assessment team can use the tools provided in this self-guided working package to identify problem areas. Like the JHSC, the team should have a policy statement, appropriate training and a plan of action to address ergonomic concerns.

The checklist of steps in the right-hand column will help ensure a successful ergonomic assessment team. These steps are important building blocks for the development of a strong and effective ergonomic assessment process and are important elements of the team's policy statement.

Members of the ergonomic assessment team may include but not be limited to:

- managers and supervisors (authority to make decisions)
- workers (job expertise and hands-on experience)
- maintenance staff (to ensure that changes can be made)
- engineers (to plan designs or retrofits).

- Our Joint Health and Safety Committee evaluates ergonomic concerns identified at the regular JHSC meetings.
- Our company has an ergonomic assessment team that includes members of the Joint Health and Safety Committee.
- Our ergonomic assessment team has a policy statement outlining the importance of preventing strain & sprain injuries.
- Our ergonomic assessment team has established goals by focusing efforts toward the highest priority ergonomic concerns in the workplace and working to resolve those concerns.
- Our ergonomic assessment team has assigned specific people to specific tasks (for example, project/team leader).
- Our ergonomic assessment team members' names are posted for all workers and management to see.
- Our ergonomic assessment team has:
 - Specific documents in place to address arising ergonomic concerns
 - Set meeting dates
 - Records of meeting minutes.
- Management has demonstrated a commitment to the ergonomic assessment team and participates in the process of eliminating strain & sprain injuries.

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 2 – Training team members

Making sure appropriate training is received by all members is essential to the success of the ergonomic assessment team. Upgrading skills and ergonomic learning needs should be assessed regularly to ensure everyone understands the issues.

Some basic ergonomic worksheets are noted on the right. All members of the ergonomic assessment team should be trained in the use of these worksheets before attempting to recognize and assess hazards for these occupations.

Please see the appropriate appendix for the ergonomic worksheets listed in the right-hand column. If further information or expertise is required, a professional ergonomist should be consulted.

Training

- Team members receive a general introduction to forestry ergonomics (OFSWA's Ergonomic Injury Prevention program)
- Team members have the knowledge and tools to address not only the areas of pain and/or discomfort but the work station, work environment and work organization

Ergonomic worksheets

- Pain Pattern Diagram (see Appendix D)
- Job Description Form (see Appendix A)
- Physical Demands Analysis – PDA (See Appendix B)
 - The PDA for each job is updated at least every three years or if something changes at the work station or there's a change in the safe operating procedure
 - If the job entails a great deal of manual work, a PDA detailed description should also be completed (See Appendix C)

Additional tools

Useful equipment that might be needed:

- A tape measure
- A portable scale to weigh all lifted or carried items

Other helpful equipment:

- A push-pull gauge
- A stopwatch
- A camera

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 3 – Recognizing ergonomic hazards

Once you have an ergonomic assessment team and everyone has been trained, the next step is to start recognizing ergonomic hazards in your workplace. Being proactive is the ideal approach, but most teams start off by dealing with reactive issues. As the team matures, the issues will become more proactive. This happens during a health and safety inspection, when members recognize problems and suggest solutions. Some of the reports and areas in which the assessment team might find useful ergonomic data are noted in the right-hand column.

Things to be on the lookout for are:

- workers who are experiencing symptoms such as discomfort, pain, numbness, tingling, weakness and/or restriction in movements
- a job or task that involves a great deal of repetition, considerable force or awkward postures

Reports for recognizing ergonomic problems:

- Records and reports of injury
- Injury trends and statistics
- First aid and health and safety log books
- Lost-time injuries in the last three years that could be attributed to poor work station or task design
- Change in work, production requirements, process or shift
- Work site adaptations, changes to tools, workers wearing wrist and/or elbow supports
- Worker's report and/or consultation
- Joint Health and Safety Committee minutes and/or topics
- Introduction of new equipment
- Symptom surveys of workers
- Worker turnover or specific job turnover
- Employee satisfaction
- Tasks that involve lifting or awkward movements
- Absenteeism
- Information recorded on the PDA and/or Job Description Form

Available ergonomic worksheets:

- Pain Pattern Diagram (Appendix D)
- Job Description Form (Appendix A)
- Physical Demands Analysis (Appendix B)

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 4 – Inspecting the workplace and assessing ergonomic hazards

When conducting the inspection, make sure that the supervisor is aware of your activities. It is important to discuss with the supervisor and workers the goal of your inspection. Ask for their comments and suggestions. This can be done in a meeting or one-on-one.

This is where the information found on the completed Physical Demands Analysis can help. If the job has constant or frequent tasks that require the individual to be in non-neutral positions, there may be an increase in strain & sprain injuries. Ask the workers performing the task for their input on how the job can be changed to make it easier. The worker is the one performing the task every day and he or she may have insight into changing the job or at least give the ergonomic assessment team an idea of the problem areas.

High-risk factors are important in assessing and inspecting sprain and strain type injuries. In the right-hand column are some questions that should be considered when assessing the work station. Remember to talk to the workers – they understand the demands of the job better than anyone else.

Take good notes that can be shared with other team members.

Conducting the inspection

- Team members should identify themselves to the supervisor for the area and explain the reasons for being there.
- Ask about unusual circumstances that may be occurring or any unusual hazards or situations the ergonomic assessment team needs to be aware of (for example, worker absence, unscheduled machine shutdown).
- Ask the supervisor when concerns with the job or task were last brought to his or her attention, and how the concerns were addressed.
- Talk to the workers involved to determine their concerns and possible suggestions for improvement. (Attempt to conduct discussions at a time or in a way that it will limit impact on production activities). Focus your questions on the areas noted below.

Assessing ergonomic hazards

- What body parts are involved?
- Are injuries occurring at specific time of day?
- Are injuries occurring on specific days of the week?
- Was the worker required to work in an awkward posture (anything away from the neutral position)?
- Did the task require a pinch grip?
- Did the task require lifting from the ground or above the shoulders?
- Take clear and concise notes of comments, suggestions and observed areas of concern.
- Document and discuss any actions taken to date to address the concern and if they have been effective. If not, indicate why.

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 5 – Recommending ergonomic hazard controls

After the assessment and inspection have been completed, the next step is to make recommendations on ergonomic control of hazards in the work station or work process. The best way to make a recommendation is to have everyone on the team brainstorm ideas. A more narrow focus can be achieved from the list of specific suggestions in the right-hand column. Check off each box after you have completed the thought process on making the recommendations.

Recommendations can also be found in the PDA form (see Appendix B).

How do you prioritize the work stations or areas if there is more than one to be addressed? The list on the right provides some questions that should be asked regarding each work station that needs change. Check off the box once the questions have been asked and everyone in the group has agreed to the answers.

After the recommendations have been completed, the next step is to include a form in which the information from the brainstorming session can be recorded and given to the appropriate department for implementation. See Appendix F for the Ergonomic Intervention Review form that can be used in this step. The checklist on the right asks the necessary questions to make sure the recommendations are forwarded to the correct department. The answers should also be noted on the Ergonomic Intervention Review form.

Recommendations

- A brainstorming session for ideas from everyone on the team
- Addressing any health effects, as they must be considered along with the results of the ergonomic assessment

Specific suggestions

- Job rotation
- Increasing breaks from repetitive tasks
- Training on strain & sprain problems (proper lifting, carrying, etc.)
- Smaller and/or lighter tools
- Minimizing vibration from equipment
- Ensuring that tools are designed to keep the body in a neutral position
- Ensuring that work stations or areas can be adjusted for individual body types
- Optimal working heights
- Keeping frequently-used items within forearm reach
- Controlling glare from overhead lighting
- Anti-fatigue matting

Prioritizing work stations for action

- How much will the proposed change decrease strain & sprain injury hazards?
- What is the potential benefit to health?
- How many people will be affected by the change?
- Is the modification feasible?

Check recommendations for:

- Responsibilities for recommendations to employer?
- Timeline for completion and persons responsible identified?
- Consideration of engineering-based controls (change work station, tools)?
- Consideration of administrative-based controls (change task, standard procedure)?

Ergonomic Assessment Team:

A Self-Guided Working Package

Step 6 – Follow-up

The final stage in implementing any ergonomic change is to make sure it has been successful. It's a good idea to re-assess the work station or area three months after the recommended changes have been made. By then the workers operating at the work station or area should have had enough time to adjust to the changes and will be able to provide feedback to the team. The follow-up questions to the right should be asked to confirm that the changes were successful.

If for any reason the changes were not successful, go back to Step 4 and revisit the problem. From the information gathered in the follow-up questions, you may find another area that needs to be addressed. If no other solutions can be found, you may need to ask an outside source for suggestions.

Once a project is completed, it's recommended that an "after" picture be taken and included on the Ergonomic Intervention Review form (Appendix F).

All your paperwork should be filed in one place. This will ensure that there is proper communication and co-ordination of the team's activities.

Follow-up questions

- Has there been a decrease in the number of injuries in this work station or area?
- Has the worker's pain and/or discomfort decreased as a result of the changes?
- Does the worker have any further suggestions on how to improve the work station or area?

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDICES

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX A: Job Description Form

This tool is used to help define the occupation. It is beneficial to use this form prior to developing a physical demands analysis (PDA). The information collected here can then be used to create a more formal job description.

To use this tool, make notes of all the relevant information in the appropriate areas.

<input type="checkbox"/> New <input type="checkbox"/> Revised	
Position Number	Job Title
Department	Reports To
Location	Work Hours

Prepared By

Date
(DD/MM/YYYY)

Approved By

Date
(DD/MM/YYYY)

HR Approved	Date	Position Group
Union Approved	Date	Position Group
Grade	Position Class	Exempt <input type="checkbox"/> Yes <input type="checkbox"/> No
		Security Sensitive <input type="checkbox"/> Yes <input type="checkbox"/> No

I. Purpose of the Job

(What are the end results or objectives of this position? Why does the job exist?)

II. Essential Functions and Responsibilities

(What duties are required for the position to exist? Estimate the percentage of time spent in each per day/week/month.)

III. Other duties and responsibilities

(Responsibilities/important duties performed occasionally or in addition to the essential duties of the position.)

IV. Duty Breakdown/detailed work activity

(Provide task statements which summarize what is involved in each duty.)

V. Equipment Operation

(Provide the type of equipment utilized and reason for use.)

VI. Supervisory Responsibilities

(Provide the number and type of employees supervised, level of authority to hire and fire or to make recommendations.)

VII. Knowledge and Skills

(Indicate which are required, preferred or desirable. Include licenses, registrations, certificates, degrees or formal education.)

VIII. Fiscal Responsibility

(Budgeting responsibilities, approval privileges on purchase orders and check requests, reporting and auditing functions.)

IX. Extent of Public Contact

(Within and outside the office.)

X. Working Conditions and Environment

(For example, necessary travel, unusual work hours, unusual environmental conditions, etc.)

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX B: Physical Demands Analysis

The Physical Demands Analysis (PDA) is a vital tool in recognizing the physical effort required in work and identifying strain & sprain injury hazards. A PDA examines the force, posture, repetition and duration demands of a specific job or task.

The first step in the development of a PDA is to familiarize yourself with the job that you are analysing. Stand back and watch the person work for a few minutes, looking for the range of physical movements the worker is required to perform in order to do the work. After this period of observation, approach the worker and ask him or her a few questions about the job, such as if and when he or she gets tired or has difficulty doing any particular part of the job, if he or she experiences any aches or pains that seem to be related to the work, and if he or she has any suggestions to improve the way the work is done.

On the following pages is a simple PDA form that can be used by the ergonomic assessment team. The PDA is in a chart/checklist format and allows an area for discussion. The PDA focuses on five areas that are major hazards for strains & sprains: force, work environment, mobility, dexterity and posture/joint position.

Here is a brief explanation of how to use the various components of a the PDA form:

- **Demands:** look for the listed physical movements in the task or position you are analysing
- **Check if Performed:** put a checkmark if one of the listed motions was observed being done
- **Usual Weight:** put a checkmark in the appropriate box
- **Frequency:** put a checkmark in the appropriate box. The letter code for the frequency categories is at the bottom of the form (N=Never, S=Seldom, etc.)
- **Discussion (Essential or non-essential):** This section allows for any comments or other relevant information, as well as classifying the task as essential or non-essential to completing the job. If one side of the body is more dominant then the other, this is a good place to indicate it.
- **Possible Recommendations:** Suggestions of how to correct the issue go here.

The following three sections are at the end of the PDA form:

- **Controls in Place:** This section allows for an expansion of controls that are currently in place to address the identified concerns (for example: job rotation, job enlargement, tool or equipment modifications)
- **Worker Recommendations:** Include any recommendations that the worker might have, since he or she is the one performing the job and is therefore an important part of the process
- **Supervisor/Management Recommendations:** Include any recommendations they might have.

PHYSICAL DEMANDS ANALYSIS

FIRM NAME:	DATE:
JOB TITLE:	HOURS OF WORK:
TIME OF DAY WHEN CONCERN HAPPENS:	MAIN CONCERN:

Essential – A task that must be completed by the worker in order for the job objective to be fulfilled
Non-Essential – A task is not performed on a regular basis OR the objective can still be completed if the task is removed.

PHYSICAL DEMANDS ANALYSIS - FORCE

DEMANDS	Check if Performed	Usual Weight (lb)				MAX	Frequency				DISCUSSION (Essential or Non-Essential)	
		1-20	20-50	>50			N	S	O	F		C
Lifting/Lowering (floor to work area)												
Lifting/Lowering (above shoulder)												
Carrying												
Pushing (waist or shoulder level)												
Pulling (waist or shoulder level)												

Possible Recommendations:

- Add Another Lifter
- Add handles
- Use Mechanical Aid
- Reduce Load Lift
- Use Scissor Lift
- Automate Job
- Raise Load off Floor
- Use Power Lift
- Training
- Lower Load to Shoulders
- Change Layout
- Use Lazy Susan
- Redesigned Package
- Use Tilted Surface
- Adjustable Stands
- Chutes and Hoppers
- Smaller Lot Size

PHYSICAL DEMANDS ANALYSIS – WORK ENVIRONMENT

DEMANDS	Check if Performed	Frequency				DISCUSSION (Essential or Non-Essential)
		N	S	O	F	
Congested Worksite or Locations						
Conditions of Working or Walking Surfaces (level? clear?)						
Location of Work						
Condition of Stairs/Ramps						

Possible Recommendations:

- Dampen Vibration
- Work Load Balance
- Better Maintenance
- Task lighting
- Eliminate Task
- Job Rotation
- Training
- Exercise Break
- Video Tape Analysis
- Motion Analysis Study

N=Never S=Seldom (1 to 5% of time) O=Occasionally (5 to 33% of time) F=Frequent (34 to 66% of time) C=Constant (67 to 100% of time)

PHYSICAL DEMANDS ANALYSIS -MOBILITY

DEMANDS	Check if Performed	Frequency				DISCUSSION (Essential or Non-Essential)
		N	S	O	F	
Sitting						
Standing						
Walking						
Twisting						
Bending (at waist)						
Crouching (bend knees)						
Climbing (indicate ladder or stairs)						
Balancing						
Crawling						
Awkward Positions						

Possible Recommendations:




- Add Foot Rest
- Tilted Work Surface
- Use Anti-Fatigue Mats
- Adjustable Chair
- Use Cushioned Insoles
- Better Stool/Chair
- Sit-Stand Stool
- Reduce Surface Size

N=Never S=Seldom (1 to 5% of time) O=Occasionally (5 to 33% of time) F=Frequent (34 to 66% of time) C=Constant (67 to 100% of time)

Ergonomic Assessment Team:

A Self-Guided Working Package

PHYSICAL DEMANDS ANALYSIS - DEXTERITY









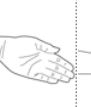
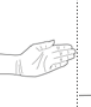

DEMANDS	Check if Performed	Frequency				DISCUSSION (Essential or Non-Essential)
		N	S	O	F	
Reaching Level						
Above or Below Shoulder To the side						
Fingering (i.e. typing)						
Handling						
Gripping						
Pinch						
Hook						
Screw or Turn						
Cut						
Eye/Hand Coordination						
Eye/Hand/Foot Coordination						

Possible Recommendations:

- Use Power Grip
- Improve Heights
- Adjustable Work Height
- Reduced Weight
- Align Work Heights
- Use Lighter Tool
- Redesign Job
- Supply Smaller Tools
- Supply Larger Tools
- Modify Tool Handle
- Use Torque Bar
- Supply Gloves






N=Never S=Seldom (1 to 5% of time) O=Occasionally (5 to 33% of time) F=Frequent (34 to 66% of time) C=Constant (67 to 100% of time)

PHYSICAL DEMANDS ANALYSIS - POSTURE/JOINT POSITION REQUIRED

DEMANDS	Check if Present	Frequency					DISCUSSION (Essential or Non-Essential)
		N	S	O	F	C	
Neck Position Flexion (bend downward) Extension (bend upward) Rotation (looking to the side)							
							
							
Shoulder Joint Flexion (arm brought in front) Extension (arm brought behind) Abduction (arm brought out to the side)							
							
							
Wrist Flexion (bend forward) Extension (bend backward) Ulnar Deviation (to the little finger side) Radial Deviation (to the thumb side) Pronation (palm down)							
							
							
							
							

N=Never S=Seldom (1 to 5% of time) O=Occasionally (5 to 33% of time) F=Frequent (34 to 66% of time) C=Constant (67 to 100% of time)

PHYSICAL DEMANDS ANALYSIS - POSTURE/JOINT POSITION REQUIRED

DEMANDS	Check if Present	Frequency				DISCUSSION (Essential or Non-Essential)
		N	S	O	F	
Supination (palm up) 						
Back Flexion (bend forward) 						
Extension (bend backward) 						
Rotation (twisting to side) 						
Lateral Bend (bending to the side) 						
Straight						

Possible Recommendations:

- Power tool
- Angled Tool Grip
- Better Gloves
- Different Tool
- Titled Work Surface
- Mechanical Assisted
- Improved Tool
- Grip Wrap
- Fixture for Tool
- Layout changes
- Automated Job
- Bend Tool Handles
- Work Methods
- Fixture for Product
- Arm Supports
- Counter Balanced Tool
- Counter Balanced Arm

CONTROLS IN PLACE:

WORKER RECOMMENDATIONS:

SUPERVISOR/ MANAGEMENT RECOMMENDATIONS:

- Possible Recommendations:**
 - Dampen Vibration
 - Motion Analysis Study
 - Reduce Workload
 - Better Maintenance
 - Work Load Balance
 - More Frequent, Shorter Rest Breaks
 - Eliminate Task
 - Task Lighting
 - Training
 - Job Rotation
 - Video Tape Analysis
 - Exercise Breaks

N=Never S=Seldom (1 to 5% of time) O=Occasionally (5 to 33% of time) F=Frequent (34 to 66% of time) C=Constant (67 to 100% of time)

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX C: Physical Demands Analysis Detailed Description

This tool can be used once the PDA is completed. It provides further details about the information collected in the PDA. It is a good idea to complete this form if the job requires a great deal of manual work. Summarize the information from the PDA into the appropriate sections.

Provide details regarding strength, mobility, sensory, work environment and work condition requirements. In some cases you may wish to include a picture of the work task.

Strength Requirements <i>(Comment on any one of the following if applicable)</i>
Lifting (floor to work area):
Lowering (floor to work area):
Lifting (above shoulders):
Lowering (above shoulders):
Carrying:
Pushing (at waist level):
Pushing (at shoulder level):
Pulling (at waist level):
Pulling (at shoulder level):

Mobility Requirements <i>(Comment on any one of the following if applicable)</i>
Sitting:
Standing:
Walking:
Twisting:
Bending (at waist):
Crouching (bend knees):
Climbing ladder (condition of):
Climbing stairs (condition of):
Balancing:
Crawling:
Awkward Positions:

Dexterity Requirements

(Comment on any one of the following if applicable)

Reaching (level):

Reaching (above shoulder):

Reaching (below shoulder):

Reaching (to the side):

Fingering:

Handling:

Gripping (pinch):

Gripping (hook):

Gripping (screw or turn):

Gripping (cut):

Eye/Hand Co-ordination:

Eye/Hand/Foot Co-ordination:

Posture/Joint Requirements

(Comment on any one of the following if applicable)

Neck Flexion:

Neck Extension:

Neck Rotation:

Shoulder Flexion:

Shoulder Extension:

Shoulder Abduction:

Wrist Flexion:

Wrist Extension:

Ulnar Deviation of the Wrist:

Radial Deviation of the Wrist:

Pronation of the Wrist:

Supination of the Wrist:

Back Flexion:

Back Extension:

Back Rotation::

Back Lateral Bend::

Standing Straight:

Work Environment Requirements <i>(Comment on any one of the following if applicable)</i>
Congested Worksite:
Congested Work Locations:
Temperature – heat/cold

Overall Impression <i>(Indicate if the job would be considered “light”, “moderate” or “heavy” based on the physical demands. Provide any other information you feel is important to capture the essence of the job.)</i>

(when complete ensure this section is also signed and dated to verify it is complete and correct)

_____ Worker Representative	_____ Date (DD/MM/YY)	_____ Management Representative	_____ Date (DD/MM/YY)
--------------------------------	--------------------------	------------------------------------	--------------------------

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX D: Pain Pattern Diagram

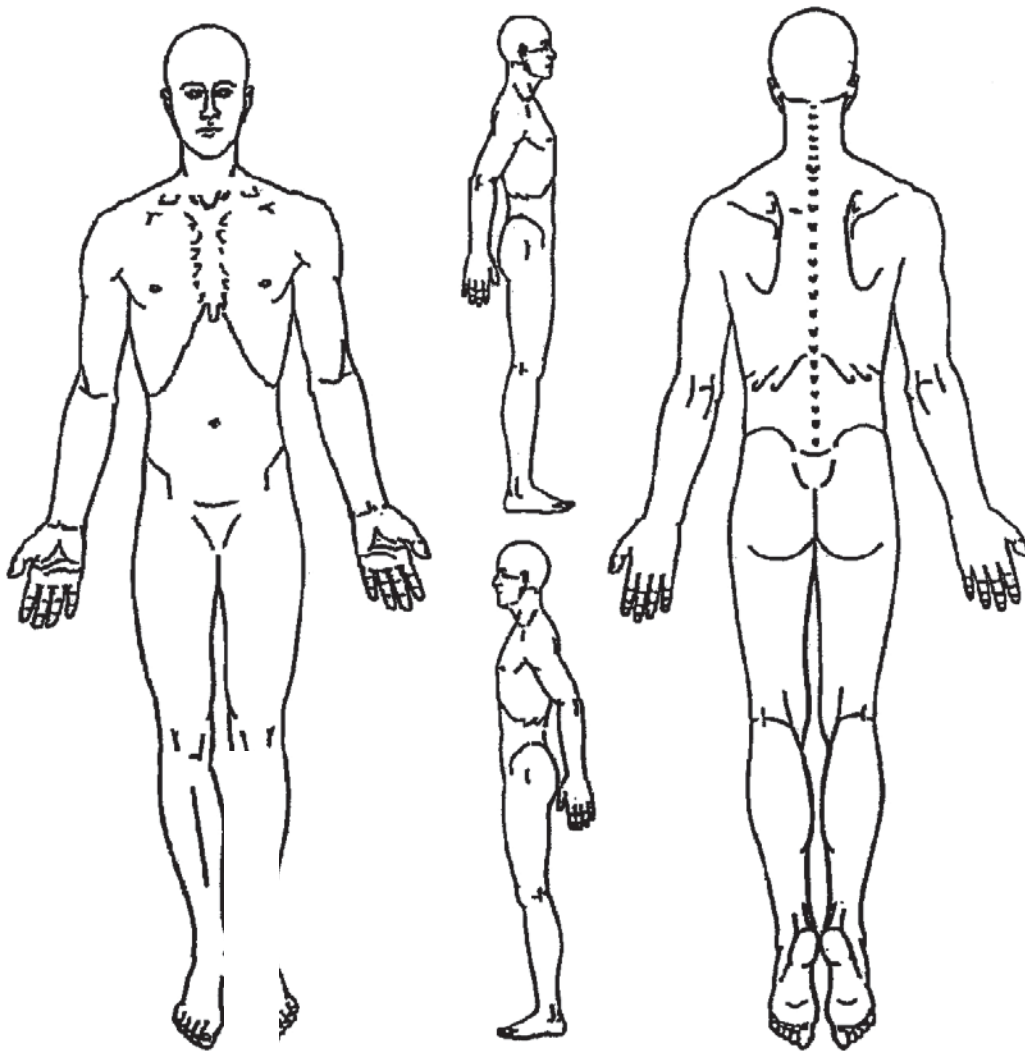
This tool can be used to help employers track the areas in which workers feel pain and discomfort. This is an excellent tool to assess areas in which ergonomic intervention may be necessary.

To use this tool, have the worker indicate on the diagram the type of pain he or she experiences.

Please note: There is sometimes more than one form of pain. If this is the case, have the worker indicate both types.

Use the symbols below to indicate the type and location of your sensations.

Burning: XXXX **Numbness: =====** **Pins & Needles: 0000** **Stabbing: ///**



Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX E: MSD Prevention Roles and Checklists

The following worksheets from WSIB help employers, supervisors, health and safety representatives, joint health and safety committee members and workers recognize, assess and control hazards in their workplace that could lead to musculoskeletal disorders (MSD).

MSD Prevention

employers

What are MSD?

Musculoskeletal Disorders (MSD) are injuries affecting muscles, tendons, ligaments and nerves. They are sometimes called Repetitive Strain Injuries (RSI), Cumulative Trauma Disorders (CTD) and Repetitive Motion Injuries (RMI).

MSD develop due to the effects of repetitive, forceful or awkward movements on joints, ligaments and other soft tissues. Some MSD injuries include Low Back Strain, Neck Strain, Tendonitis, Carpal Tunnel Syndrome (CTS), Rotator Cuff Syndrome, and Tennis Elbow (Epicondylitis).

What can you do?

Employers have legal responsibilities for health and safety and must 'take every precaution reasonable' to protect workers. The best way to do that is to integrate MSD prevention into the health and safety program.

- Incorporate MSD prevention as an objective in your health and safety policy and program.
- Review your health and safety program to see how you can include or strengthen the MSD prevention activities.
- Make sure workers and supervisors are trained on how to recognize, assess and eliminate/control MSD hazards.
- Ensure supervisors know what to do if they recognize a hazard or if a worker raises a concern.
- Check that all equipment and materials used in the workplace are safe from MSD hazards.
- Make sure new equipment has ergonomic features before purchasing it.

Taking a systematic approach to managing health and safety in your workplace will help minimize the risks. **Five Steps to Managing Health and Safety** provides a step-by-step approach. See over for ways you can use this approach to prevent MSD.

WHY PREVENT MSD?

Costs to the system:

MSD account for **40% of all work-related injuries**

Costs to workers:

- pain and suffering
- disruption to home and work life
- impact on families, friends and the community

Costs to workplaces:

- lost productivity and revenue
- surcharges and lost rebates
- Ministry of Labour orders



ONLINE RESOURCES

PREVENTION DYNAMICS

To link to the health and safety association for your industry and to access their MSD resources, please visit www.preventiondynamics.com

MINISTRY OF LABOUR

www.labour.gov.on.ca

Check the Health and Safety Section for the Pains and Strains resources and information for preventing MSD.

PREVENTION PRACTICES DATABASE

www.preventionpractices.com

Find and share resources and practices for preventing MSD.

OSH FOR EVERYONE

www.oshforeveryone.org

Information to help you recognize, assess and control MSD hazards.

ONTARIO WORKPLACE GATEWAY

www.serviceontario.ca/workplacegateway

Check the Repetitive Strain section for information and links to help workplaces prevent MSD.

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY

www.ccohs.ca/oshanswers

OSH Answers service provides health and safety information on a variety of topics including MSD hazards and how to control them.

HEALTH CANADA

www.hc-sc.gc.ca

Look in the Environmental and Workplace Health section under Occupational Health and Safety.

WORKPLACE SAFETY AND INSURANCE BOARD

www.wsib.on.ca

Find information about the WSIB services, programs and initiatives. Contact the WSIB for a copy of the Prevent MSD in Your Workplace CD-ROM.

WSIB Prevention Hotline:

416 344-1016 or 1-800-663-6639

For service in languages other than English call:

416-344-4999 or 1-800-465-5606

For Telephone Service for the Deaf (TTY): 1-800-387-0050

MSD Prevention

p. 2

employers

Five Steps To Managing Health And Safety

STEP 1: Set Standards, or expectations, for how work will be done.

- Include MSD prevention in your health and safety policy.
- Establish how you will recognize MSD hazards (inspections, surveys, reports)
- Establish how you will assess MSD hazards (use inspection tools, audit tools, and physical demands analysis).
- Establish how you will eliminate or control MSD hazards, e.g., purchasing standards for ergonomically-designed equipment such as adjustable workstations).
- Determine what MSD hazard awareness and prevention training to provide, to whom, and how often.

STEP 2: Communicate your expectations

- Determine who needs to know what about MSD hazards and prevention.
- Determine how you will communicate this information, e.g., during orientation training, in monthly newsletters and on bulletin boards.

STEP 3: Train everyone in MSD hazard awareness and prevention

- Train everyone to recognize MSD hazards and early signs and symptoms.
- Ensure all office employees receive office ergonomics training, including how to adjust computer workstations.
- Train all employees who handle materials on safe manual material handling.
- Ensure someone knowledgeable in MSD prevention delivers the training.
- Keep records of who received what training, when and who provided it.
- Evaluate training using quizzes, on-site inspections and review of work practices by supervisor.
- Ensure supervisors receive training on recognizing, assessing and controlling MSD hazards.

STEP 4: Evaluate to determine if the expectations set in Step 1, Setting Standards, are being met.

- Review the standards you've established to see if they are still appropriate.
- Evaluate to make sure the standards set are being followed and complied with.
- Review reports of MSD occurring to see if they are increasing or decreasing.
- Find out if workers have MSD symptoms. Ask them and/or use a survey.
- Do staff perception surveys about MSD.

STEP 5: Acknowledge Success / Make Improvements

- Make necessary changes or improvements based on the results of the evaluation
- Acknowledge success by recognizing individual efforts, for example, during performance reviews, in workplace newsletters, at team meetings.

MSD Prevention

supervisors

What are MSD?

Musculoskeletal Disorders (MSD) are injuries affecting muscles, tendons, ligaments and nerves. They are sometimes called Repetitive Strain Injuries (RSI), Cumulative Trauma Disorders (CTD) and Repetitive Motion Injuries (RMI).

MSD develop due to the effects of repetitive, forceful or awkward movements on joints, ligaments and other soft tissues. Some MSD injuries include Low Back Strain, Neck Strain, Tendonitis, Carpal Tunnel Syndrome (CTS), Rotator Cuff Syndrome, and Tennis Elbow (Epicondylitis).

What can you do?

Supervisors have legal responsibilities for health and safety, and must 'take every precaution reasonable' to protect workers. If you're a supervisor, there are some steps you can take to protect your workers from MSD hazards.

- Ensure everyone you supervise is aware of MSD hazards on the job and is trained to do their job safely.
- Look for MSD hazards during workplace inspections, job task analyses, discussions with workers and by reviewing injury reports.
- Supervise your workers to ensure
 - they work safely, and use equipment and protective devices properly,
 - they take breaks from repetitive, forceful tasks,
 - their workstations are adjusted to suit them and the work they do, and
 - they come to you with questions or concerns.
- Be aware of the MSD warning signs.
- Take action on reported hazards, follow-up with workers.

WHY PREVENT MSD?

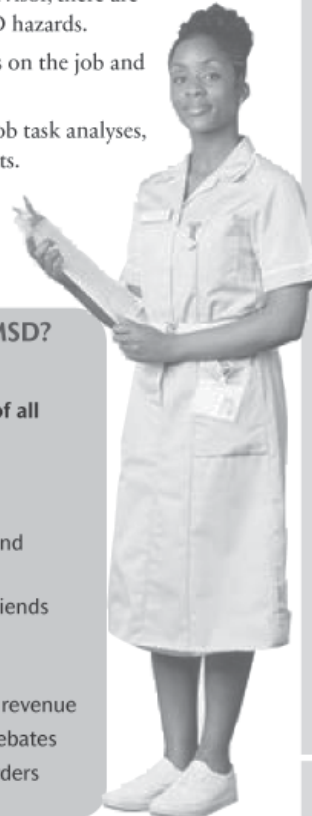
Costs to the system:
MSD account for **40% of all work-related injuries.**

Costs to workers:

- pain and suffering
- disruption to home and work life
- impact on families, friends and the community

Costs to workplaces:

- lost productivity and revenue
- surcharges and lost rebates
- Ministry of Labour orders



ONLINE RESOURCES

PREVENTION DYNAMICS

To link to the health and safety association for your industry and to access their MSD resources, please visit www.preventiondynamics.com

MINISTRY OF LABOUR

www.labour.gov.on.ca

Check the Health and Safety Section for the Pains and Strains resources and information for preventing MSD.

PREVENTION PRACTICES DATABASE

www.preventionpractices.com

Find and share resources and practices for preventing MSD.

OSH FOR EVERYONE

www.oshforeveryone.org

Information to help you recognize, assess and control MSD hazards.

ONTARIO WORKPLACE GATEWAY

www.serviceontario.ca/workplacegateway

Check the Repetitive Strain section for information and links to help workplaces prevent MSD.

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY

www.ccohs.ca/oshanswers

OSH Answers service provides health and safety information on a variety of topics including MSD hazards and how to control them.

HEALTH CANADA

www.hc-sc.gc.ca

Look in the Environmental and Workplace Health section under Occupational Health and Safety.

WORKPLACE SAFETY AND INSURANCE BOARD

www.wsib.on.ca

Find information about the WSIB services, programs and initiatives. Contact the WSIB for a copy of the Prevent MSD in Your Workplace CD-ROM.

WSIB Prevention Hotline:

416 344-1016 or 1-800-663-6639

For service in languages other than English call:

416-344-4999 or 1-800-465-5606

For Telephone Service for the Deaf (TTY): 1-800-387-0050



Workplace Safety & Insurance Board

Commission de la sécurité professionnelle et de l'assurance contre les accidents du travail

5194A (03/06)

MSD Prevention

p. 2

supervisors

Use the following checklist to help you identify task and equipment factors that can increase your workers' risk of developing a musculoskeletal disorder (MSD).

Preventing MSD – A Supervisors Checklist			
JOB NAME:	Date:		
Do workers on this job:	N/A	Yes	No
lift, lower or carry objects that are, in their opinion, heavy.			
have difficulties pushing or pulling items / objects.			
do tasks that require difficult and forceful gripping with the hands.			
use tools that require a great deal of effort to hold, control or use.			
use their hands to pound or hammer things when doing my job.			
do other high force tasks not covered above.			
work with their hands above their shoulders or held far away from the body.			
do tasks with one or both arms behind the body.			
bend or twist the back/ trunk.			
twist or bend (forward/back/to the side) the neck.			
hold their neck to one side (e.g. holding phone between ear and shoulder).			
need to bend or twist the wrist.			
pick up or hold things using difficult grips (pinch grips, wide finger grips).			
need to use other awkward postures that are not covered above.			
have to lift, lower or carry objects repeatedly when doing their job.			
repeatedly push or pull things when doing their job.			
repeatedly grip or manipulate things with their hands/fingers.			
repeatedly use awkward arm, hand or wrist postures.			
repeatedly use awkward back or neck postures.			
repeatedly use poorly designed hand tools when doing their job.			
repeatedly do tasks or use awkward postures that are not covered above.			
use hand tools that vibrate and/or are they exposed to whole body vibration.			
have too little space / clearance at their workstation / work area.			
have to stay in awkward postures for a long time without a change.			
sit or stand for long periods of time without a change in posture.			
feel like they don't have enough variety in their job.			
find the job to be very demanding.			

MSD WARNING SIGNS:

- Workers making changes to tools or workstations.
- Workers wearing splints or supports.
- Workers massaging muscles or shaking their arms/legs.
- Workers reporting pain, discomfort, or fatigue.
- Workers avoiding a certain task because it hurts them.

If you answered 'Yes' to any of these questions, your workers may be exposed to MSD hazards. Speak to your workers and work together to find ways to reduce their exposure to MSD hazards by changing the way the job is done or the design of the task/work area.

MSD Prevention

Health and Safety Representatives and Joint Health Safety Committee Members

What are MSD?

Musculoskeletal Disorders (MSD) are injuries affecting muscles, tendons, ligaments and nerves. They are sometimes called Repetitive Strain Injuries (RSI), Cumulative Trauma Disorders (CTD) and Repetitive Motion Injuries (RMI).

MSD develop due to the effects of repetitive, forceful or awkward movements on joints, ligaments and other soft tissues. Some MSD injuries include Low Back Strain, Neck Strain, Tendonitis, Carpal Tunnel Syndrome (CTS), Rotator Cuff Syndrome, and Tennis Elbow (Epicondylitis).

What can you do?

As a health and safety representative or JHSC member, you play a role in recognizing, assessing and controlling MSD hazards. Evaluate your activities to ensure they contribute to MSD prevention.

- MSD hazards are included on all inspection checklists.
- Actively look for MSD hazards using regular workplace inspections, job task analyses, injury investigation reports and by interviewing workers and supervisors.
- Consistently discuss MSD-related concerns at committee meetings or with the employer.
- Review training records to ensure everyone in the workplace has received training on how to do their jobs and how to identify the hazards in the workplace, including those that cause MSD.
- Make recommendations to the employer on how to eliminate, control or reduce exposure to MSD hazards.
- Get training on recognizing, assessing and controlling MSD hazards

WHY PREVENT MSD?

Costs to the system:

MSD account for **40% of all work-related injuries**

Costs to workers:

- pain and suffering
- disruption to home and work life
- impact on families, friends and the community

Costs to workplaces:

- lost productivity and revenue
- surcharges and lost rebates
- Ministry of Labour orders



ONLINE RESOURCES

PREVENTION DYNAMICS

To link to the health and safety association for your industry and to access their MSD resources, please visit www.preventiondynamics.com

MINISTRY OF LABOUR

www.labour.gov.on.ca

Check the Health and Safety Section for the Pains and Strains resources and information for preventing MSD.

PREVENTION PRACTICES DATABASE

www.preventionpractices.com

Find and share resources and practices for preventing MSD.

OSH FOR EVERYONE

www.oshforeveryone.org

Information to help you recognize, assess and control MSD hazards.

ONTARIO WORKPLACE GATEWAY

www.serviceontario.ca/workplacegateway

Check the Repetitive Strain section for information and links to help workplaces prevent MSD.

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY

www.ccohs.ca/oshanswers

OSH Answers service provides health and safety information on a variety of topics including MSD hazards and how to control them.

HEALTH CANADA

www.hc-sc.gc.ca

Look in the Environmental and Workplace Health section under Occupational Health and Safety.

WORKPLACE SAFETY AND INSURANCE BOARD

www.wsib.on.ca

Find information about the WSIB services, programs and initiatives. Contact the WSIB for a copy of the Prevent MSD in Your Workplace CD-ROM.

WSIB Prevention Hotline:

416 344-1016 or 1-800-663-6639

For service in languages other than English call:

416-344-4999 or 1-800-465-5606

For Telephone Service for the Deaf (TTY): 1-800-387-0050



Workplace Safety & Insurance Board

Commission de la sécurité professionnelle et de l'assurance contre les accidents du travail

5195A (03/06)

MSD Prevention

JHSC Representatives

Use the following checklist to help you identify task and equipment factors that can increase workers' risk of developing a musculoskeletal disorder (MSD).

Preventing MSD – Hazard Checklist			
JOB NAME:	Date:		
Do workers on this job:	N/A	Yes	No
lift, lower or carry objects that are, in their opinion, heavy.			
have difficulties pushing or pulling items / objects			
do tasks that require difficult and forceful gripping with the hands.			
use tools that require a great deal of effort to hold, control or use.			
use their hands to pound or hammer things when doing my job.			
do other high force tasks not covered above.			
work with their hands above their shoulders or held far away from the body.			
do tasks with one or both arms behind the body.			
bend or twist the back / trunk.			
twist or bend (forward/back/to the side) the neck.			
hold their neck to one side (e.g. holding phone between ear and shoulder).			
need to bend or twist the wrist.			
pick up or hold things using difficult grips (pinch grips, wide finger grips).			
need to use other awkward postures that are not covered above.			
have to lift, lower or carry objects repeatedly when doing their job.			
repeatedly push or pull things when doing their job.			
repeatedly grip or manipulate things with their hands/fingers.			
repeatedly use awkward arm, hand or wrist postures.			
repeatedly use awkward back or neck postures.			
repeatedly use poorly designed hand tools when doing their job.			
repeatedly do tasks or use awkward postures that are not covered above.			
use hand tools that vibrate and/or are they exposed to whole body vibration.			
have too little space / clearance at their workstation / work area			
have to stay in awkward postures for a long time without a change.			
sit or stand for long periods of time without a change in posture.			
feel like they don't have enough variety in their job.			
find the job to be very demanding.			

MSD WARNING SIGNS:

- Workers making changes to tools or workstations.
- Workers wearing splints or supports.
- Workers massaging muscles or shaking their arms/legs.
- Workers reporting pain, discomfort, or fatigue.
- Workers avoiding a certain task because it hurts them.

MSD Prevention

workers

What are MSD?

Musculoskeletal Disorders (MSD) are injuries affecting muscles, tendons, ligaments and nerves. They are sometimes called Repetitive Strain Injuries (RSI), Cumulative Trauma Disorders (CTD) and Repetitive Motion Injuries (RMI).

MSD develop due to the effects of repetitive, forceful or awkward movements on joints, ligaments and other soft tissues. Some MSD injuries include Low Back Strain, Neck Strain, Tendonitis, Carpal Tunnel Syndrome (CTS), Rotator Cuff Syndrome, and Tennis Elbow (Epicondylitis).

What can you do?

Make sure you've been trained to do your job safely and to know the hazards or factors in your job that could cause MSD. Take steps to control or eliminate MSD hazards and participate in making your workplace safer.

- Report MSD hazards and concerns to your supervisor.
- Use the equipment and tools provided to reduce exposure to MSD hazards.
- Know how to make adjustments to the workstation and make them suit you and the work you do.
- Take rest breaks from repetitive or forceful tasks.
- Move around and occasionally change positions.
- Go to your supervisor with questions, concerns or for additional training.
- Offer suggestions to improve working conditions to your supervisor or through your health and safety representative.
- Be aware of the symptoms of MSD and if you have any, report them to your supervisor.



ONLINE RESOURCES

PREVENTION DYNAMICS

To link to the health and safety association for your industry and to access their MSD resources, please visit www.preventiondynamics.com

MINISTRY OF LABOUR

www.labour.gov.on.ca

Check the Health and Safety Section for the Pains and Strains resources and information for preventing MSD.

PREVENTION PRACTICES DATABASE

www.preventionpractices.com

Find and share resources and practices for preventing MSD.

OSH FOR EVERYONE

www.oshforeveryone.org

Information to help you recognize, assess and control MSD hazards.

ONTARIO WORKPLACE GATEWAY

www.serviceontario.ca/workplacegateway

Check the Repetitive Strain section for information and links to help workplaces prevent MSD.

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY

www.ccohs.ca/oshanswers

OSH Answers service provides health and safety information on a variety of topics including MSD hazards and how to control them.

HEALTH CANADA

www.hc-sc.gc.ca

Look in the Environmental and Workplace Health section under Occupational Health and Safety.

WORKPLACE SAFETY AND INSURANCE BOARD

www.wsib.on.ca

Find information about the WSIB services, programs and initiatives. Contact the WSIB for a copy of the Prevent MSD in Your Workplace CD-ROM.

WSIB Prevention Hotline:

416 344-1016 or 1-800-663-6639

For service in languages other than English call:

416-344-4999 or 1-800-465-5606

For Telephone Service for the Deaf (TTY):

1-800-387-0050

MSD Prevention

p. 2

workers

Use this checklist to help you identify tasks and equipment that can increase your risk of developing a musculoskeletal disorder (MSD).

PERSONAL CHECKLIST FOR PREVENTING MSD			
	N/A	Yes	No
I have to lift, lower or carry objects that are, in my opinion, heavy.			
I have to do difficult pushing or pulling.			
I do tasks that require difficult and forceful gripping with the hands.			
I use tools that require a great deal of effort to hold, control or use.			
I use my hands to pound or hammer things when doing my job.			
I do other high force tasks in my job that are not covered above.			
I work with my hands above my shoulders or held far away from my body.			
I do tasks with one or both arms behind my body.			
I bend or twist my back / trunk.			
I twist or bend (forward/back/to the side) my neck.			
I hold my neck one side (e.g. holding phone between the ear and shoulder).			
I need to bend or twist my wrist.			
I pick up or hold things using difficult grips.			
I need to use other awkward postures that are not covered above.			
I have to lift, lower or carry objects repeatedly when doing my job.			
I repeatedly push or pull things when doing my job.			
I repeatedly grip or manipulate things with my hands/fingers.			
I repeatedly use awkward arm, hand or wrist postures.			
I repeatedly use awkward back or neck postures.			
I repeatedly use poorly designed hand tools when doing my job.			
I repeatedly do tasks or use awkward postures that are not covered above.			
I use hand tools that vibrate and/or am exposed to whole body vibration.			
I don't have enough space / clearance at my workstation / work area			
I have to stay in awkward postures for a long time without a change.			
I sit or stand for long periods of time without a change in posture.			
I don't feel as if I have enough variety in my job.			
I find my job to be very demanding.			

If you answered 'Yes' to any of these questions, you may be exposed to MSD hazards. Speak to your supervisor about your concerns. Work together to find ways to reduce your exposure to MSD hazards by changing the way the job is done or the design of the task/work area.

Ergonomic Assessment Team:

A Self-Guided Working Package

APPENDIX F: Ergonomic Intervention Review

This tool has many different options for use. The following are some examples of where it could be used:

- Work practice – safe procedure updates, safety meeting topics and on-going training
- Administrative – addressing job rotation or modified work and/or return to work programs
- Design – maintenance department to determine what the problem is and how they can change the equipment to decrease the likelihood of strain & sprains
- Upgrade/Device – this will involve discussions with senior management, as it may have to be considered in the budget.

Ergonomic Intervention Review

Occupational Title: _____
(Attach necessary information, PDA, hazard checklist, symptom survey, work order)

Date of Accommodation/Modification (dd/mm/yyyy): _____

Type of modification (Check one):

- Work Practice Administrative Design Upgrade/Device

Risk factors to which body area:

- | | | |
|------------------------------------|-----------------------------------|---------------------------------|
| <input type="checkbox"/> Neck | <input type="checkbox"/> Mid back | <input type="checkbox"/> Hips |
| <input type="checkbox"/> Shoulders | <input type="checkbox"/> Low back | <input type="checkbox"/> Knees |
| <input type="checkbox"/> Elbows | | <input type="checkbox"/> Ankles |
| <input type="checkbox"/> Wrist | | <input type="checkbox"/> Feet |
| <input type="checkbox"/> Hands | | |

Risk factors description (force, posture, time elements):

List the risk factors you have identified (for example, use of awkward working postures, repetitive motions, use of excessive force.)

Recommendations:

Worksite Picture (Before)

Worksite Picture (After)