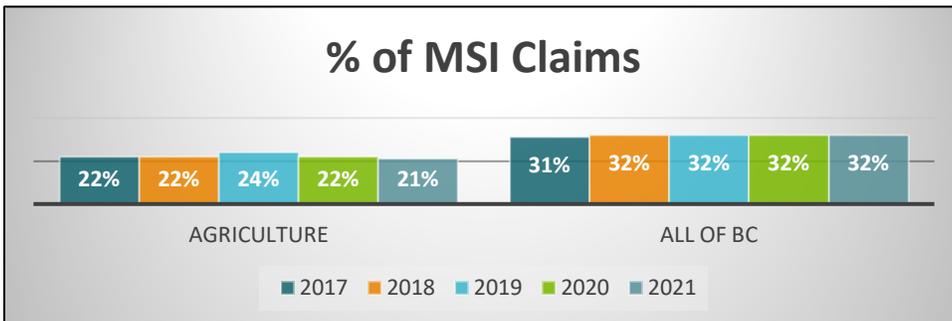
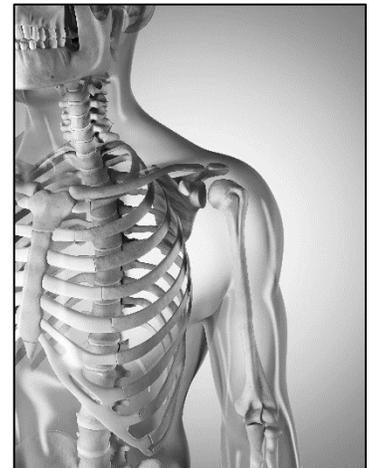
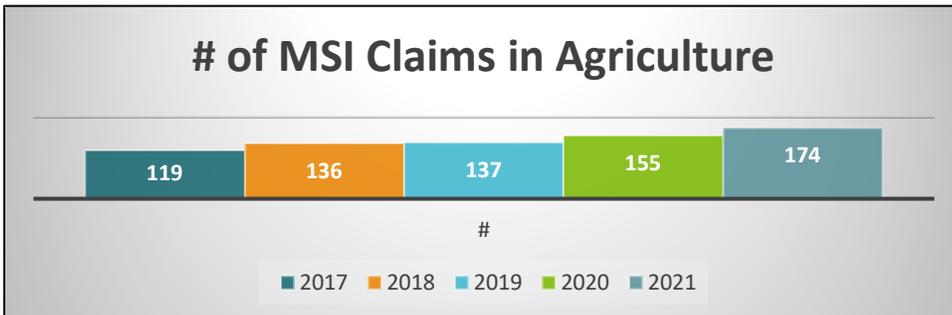
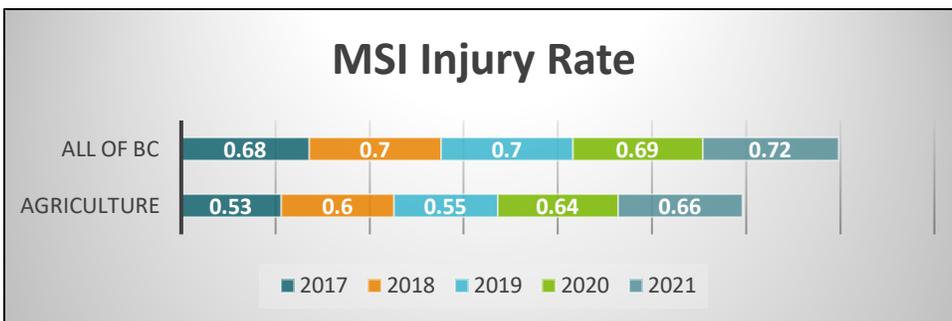


What is an MSI?



Some of the tasks we perform at work such as lifting, reaching, and repeating the same movements – can strain our bodies. In some situations, these tasks can result in an injury to the muscles, tendons, ligaments, nerves, blood vessels, and joints of the neck, shoulders arms, wrists, legs, and back. ***This type of injury is called a musculoskeletal Injury, or MSI.***



Stats Source: WorkSafeBC | <https://app.powerbi.com/>

Musculoskeletal injuries account for 32% of WorkSafeBC claims, resulting in long term claims, causing worker distress and increased premiums for employers. Many musculoskeletal injuries can be prevented.

MSI Signs and Symptoms

Signs (observed):	Symptoms (felt):
<ul style="list-style-type: none"> • Redness, swelling. • Limited movement <ul style="list-style-type: none"> • Do not ignore early signs and symptoms. • Know where and how to report signs and symptoms. • Seek treatment to prevent the injury from getting worse. 	<ul style="list-style-type: none"> • Pain • Numbness or tingling • Sore or stiff muscles and joints • Weakness, tenderness <ul style="list-style-type: none"> • REPORT SIGNS AND SYMPTOMS EARLY! • Did you know the earlier you detect and report the development of an injury, the better your chance of recovering from it fully?

Health Effects

- MSIs can significantly affect work, home, and recreational activities.
 - Recovery can be lengthy.
 - Early signs and symptoms can progress into conditions with long term effects such as:
 - Sprains and strains
 - Bursitis
 - Tendonitis
 - Carpal tunnel syndrome
1. If workers develop MSIs, in the early stages they are often painful but in a late stage *can* be disabling – affecting sleep and interfering with; tasks at work; home and recreational pursuits.
 2. In some cases, MSIs can become longstanding sometimes requiring lengthy treatment and may even become irreversible.
 3. Some long recovery conditions include:



Sprains – they occur when a ligament is stretched beyond its normal length. In our bodies, ligaments are similar to supporting wires connecting bones together at the joints, providing strength and stability to a joint

A **strain** is the stretching or tearing of a muscle or tendon. Every muscle in the body attaches to bone via a tendon.

Tendinitis is inflammation of a tendon – the band of tissue that attaches every muscle to bone.

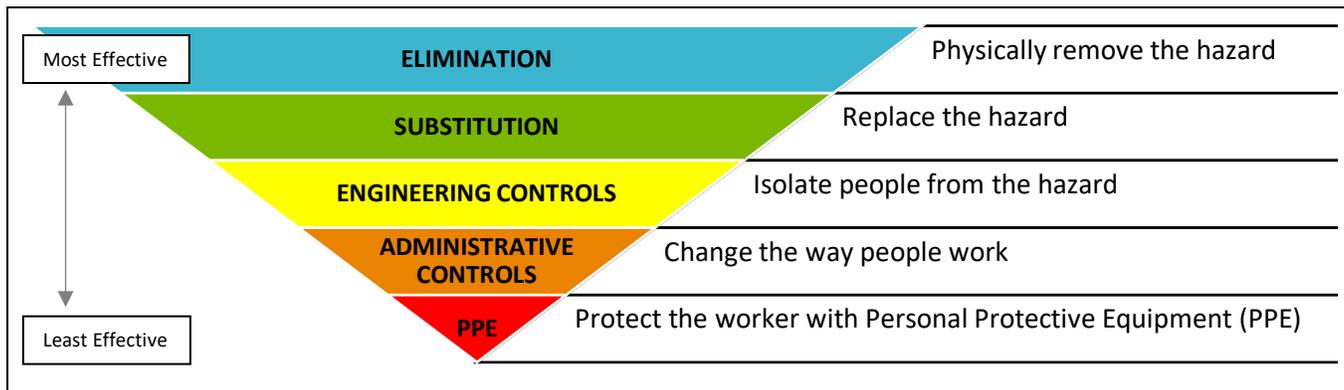
Carpal tunnel syndrome affects the hand and wrist. It occurs when the median nerve, in the wrist becomes compressed and inflamed.

	Elimination
	Substitution
	Engineering Controls
	Administrative Controls
	PPE

MSI Risk Factors

Repetition Same motion over and over.	
Example	Working a seeding line, mushroom picking.
Controls	 Task rotation. Micro breaks. Change position or the hand being used <i>(if possible)</i>
Gripping/Pinch Gripping Gripping unsupported objects.	
Example	Using hand tools, handling plants.
Controls	 Task rotation. Micro breaks. Change position or the hand being used <i>(if possible)</i> .  Appropriate Gloves.
Lifting/Lowering/Carrying Lifting, lowering, or carrying objects of any weight <i>(light to heavy)</i> .	
Example	Moving hay bales, stacking boxes/pallets.
Controls	 Shift tasks or positions with other workers when possible. Reduce the repeated handling of the same load throughout a process.  Use mechanical handling aids: Tools, hoists, manipulators, counter-balanced lifters, pallet trucks, stackers and forklifts.  Examine and redesign the workplace layout. Follow safe lifting procedures and techniques.
Pushing/Pulling Effort exerted while pushing or pulling tools/objects.	
Example	Shoveling, operating pallet jack.
Controls	 Push rather than pull. Keep your back straight and bend your knees. Do not twist at your hips to push, but rather keep your core tight and use your legs and body weight to move the object. Face the load squarely rather than at the top or bottom of the object. Use well maintained appropriate tools.
Awkward Posture Prolonged bending, kneeling, reaching, squatting, or twisting.	
Example	Spacing/placing pots.
Controls	 Shift tasks or positions with other workers when possible.  Sit close to your work and keep frequently used materials within reach. Maintain neutral wrist/arm postures as much as possible. Avoid twisting and bending motions.  Utilize anti fatigue aids.
Contact Stress Prolonged contact of the body with a hard surface or edge.	
Example	Kneeling, shoveling
Controls	 Shift tasks or positions with other workers when possible.  Pad or round out the edges of tools, objects and workstations. Use tools with long handles and spring-assists. Distribute pressure evenly and avoid kneeling or standing on hard surfaces. Avoid the use of the hand or knee to strike objects.
Hand/Arm Vibration Using vibrating tools/equipment.	
Example	Operating grinder, running a chainsaw.
Controls	 Limit time on one machine or tool when possible.  Take microbreaks. Stretch affected muscles prior to and after use.  Use Anti-vibration tools as well as anti-vibration PPE (gloves)
Extreme Temperature Working in areas with extreme hot or cold.	
Example	Greenhouse work in warmer months, outdoor work in winter.
Controls	 Shift rotation, limit time in extreme temperatures.  Wear layers to insulate from cold. If indoors, use a fan to increase air speed (movement). Wear loose clothing that permits sweat evaporation. Use cooled protective clothing for extreme conditions. Stay hydrated.

Selecting Controls



Information Source: [Controlling Risks - WorkSafeBC](#)

Elimination

Eliminating the hazard completely is always the first choice.

When considering these options, ask yourself:

- Can I find safer ways to perform the task? For example, if lifting is a hazard, can I use a mechanical aid instead?

Substitution

Substitution involves replacing the material or process with a less hazardous one.

Engineering Controls

If you can't eliminate the hazards or substitute safer alternatives, engineering controls are the next best options. These involve using work equipment or other means to prevent workers from being exposed to a hazard.

Engineering controls are physical changes to the workplace and may include equipment guarding, guardrails, traffic control lanes and barriers between vehicles and pedestrians, and many other options.

- For example, working long hours on a line cannot be avoided, but can you use adjustable worktables to minimize reach distance?

Administrative Controls

Administrative controls involve identifying and implementing safe work procedures so your workers can perform their job duties safely. The findings of your risk assessment will form the basis of these safe work procedures.

- Examples of administrative controls include task rotation, and the implementation of safe work procedures.

Personal Protective Equipment and Clothing

Using personal protective equipment (PPE) is another important control to protect workers.

- For example, while working with vibrating tools/equipment, utilizing anti vibration gloves can be a useful control.

How to Complete MSI Risk Assessment

Who Should Conduct Risk Assessments?

Risk identification will be conducted by persons who are knowledgeable of work procedures, and the associated MSI risk factors. The risk identification process can be a part of a workplace inspection. [Section 4.53](#) requires that the **joint occupational health and safety committee or worker health and safety representative, as applicable, must be consulted on risk identification.**

Step 1 | Identifying Risk Factors

How are risk factors identified?

The employer should give priority to jobs which have a high risk of MSI. The employer should check past workplace records for evidence of MSI, including first aid records and claims history.

Other sources of information include:

- Interviews with workers and supervisors
- Trends in the employer's industry
- MSI statistics in similar operations where available

In addition to reviewing records, risk factors can be identified through direct observation of the work activities.

Step 2

Once you have selected tasks use the template on page 6 to list the tasks. Reference page 3 to determine all relevant risk factors. **Be sure to consider all steps of each task, and the risk factors they may pose.**

Step 3

When risk factors have been identified, list applicable controls. Follow the hierarchy of controls during this process. Reference page 3, 4, and the example provided to assist in determining controls.

Step 4

Review the MSI information on pages 1 and 2, as well as the details of your risk assessments. Ensure workers are well educated on the risk factors, and controls that have been implemented.

Step 5

Use the sign off sheet to record attendees.

Step 6

At least once a year, the effectiveness of controls must be reviewed. The review must cover all the measures taken, including risk identification and assessment, the implementation of control measures, and the education and training of workers. In reviewing the effectiveness, employers will evaluate whether they have eliminated or minimized the degree of risk to workers.

If you have found that the risks have been reduced, continue using the controls implemented. If risks have not been reduced, conduct an updated risk assessment.

Use the "Date Reviewed" portion the risk assessment template to indicate a review has been completed.

MSI Risk Assessment *Example*

Company Name	ABC Farms	Prepared By	
Workplace Location			
Date Prepared		Date Reviewed	

Assessment		
Task	MSI Risk Factor	Control
Working on potting / Planting Line	Awkward Posture	<ul style="list-style-type: none"> Utilize adjustable worktables. Minimize reach distance. Task rotation, micro breaks. Utilize anti-fatigue aids.
Moving / Stacking Heavy Objects	Lifting / Lowering / Carrying	<ul style="list-style-type: none"> Utilize mechanical lift aids. Minimize frequency of lift. Where possible separate the material into more manageable loads. Establish safe lifting work procedures and ensure workers are trained.
Mushroom Harvesting	Repetition	<ul style="list-style-type: none"> Utilize adjustable picking platforms. Minimize reach distance. Micro breaks.
Shovelling / Mucking	Repetition / Contact Stress / Lifting	<ul style="list-style-type: none"> Stand with feet apart, use whole body not just arms. Move with shovel/pick, always face the load, keep back as straight as possible. Use appropriate tools. Task rotations, micro breaks.
Operating Tools / Equipment	Hand / Arm Vibration	<ul style="list-style-type: none"> Task rotation/micro breaks. Anti-vibration gloves. Anti-vibration tools.

Employer Name

Employer Signature

Date

MSI Risk Assessment

Company Name		Prepared By	
Workplace Location			
Date Prepared		Date Reviewed	

Assessment		
Task (<i>List 5 separate tasks</i>)	MSI Risk Factor	Control
Other Recommendations:		
Other Notes:		

_____ Employer Name	_____ Employer Signature	_____ Date
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