

Musculoskeletal injuries (MSI) include injuries to muscles and joints and the various structures that make up the joint (ligaments, tendons, cartilage and bursae). About half the injury claims by forestry workers in BC are MSI, making them an important area to target for injury prevention. Musculoskeletal injuries are sometimes referred to as sprains, strains or overuse injuries.

MSI injuries result when the stress on the tissue is greater than what it can support, so there is an increased risk of injury when the load is heavy, has to be moved quickly, the movement occurs frequently, or goes on for a long time. Some awkward body postures also increase the risk of injury because they place the tissues under additional strain. Extremes of weather and distractions like loud noise can also add to the stress. Being aware of these factors can help prevent injuries, but we also need to make sure that we maintain our bodies so they have the capacity to do the work.

Muscles and joints need to be used to stay healthy. As soon as you stop being active, strength is lost very quickly; so taking on a job where you sit most of the time will make it harder to do physical work. Whatever your fitness level is, any time there is a sudden increase in workload, there is a risk of exceeding the current strength of the tissue and causing some damage. Previous injuries can make us unconsciously protect a joint, changing the way we move and overloading other muscles and tissues. Poor diet, dehydration and smoking also increase the risk of injury. These same issues can also slow the healing process, making recovery time from an injury longer. In addition, diseases like osteoarthritis and diabetes can also increase the risk of MSI and increase recovery time.

Facts:

- The risk of a MSI is elevated when the loads are high (lifting heavy objects), the frequency of the task is high, the duration of the task is long, or when there are rotational, overhead, or off-balance movements required.
- Sudden increases in the workload, changes in the type of work performed, or added challenges like very hot or very cold weather increase the risk of injury.
- Previously injuries can also increase the risk that a second injury will occur.
- Activity is essential for keeping muscle and joints healthy. Tissues will deteriorate without regular use, and this will increase the risk of injury.
- Muscles have good blood supply, so even though these injuries are painful, they can repair themselves. In contrast, injuries to the other structures in the joint like tendons, ligaments and cartilage are usually more difficult to repair and may require careful rehabilitation and/or surgery.
- Dehydration, poor nutrition, fatigue and smoking raise the risk of MSI.
- Getting help at the first sign of a problem can prevent an MSI from developing and greatly speed up the recovery.

What to expect:

- Nearly everyone will experience some kind of muscle strain or tendon pain at some point.
- A more sedentary lifestyle usually results in lower fitness; muscles lose their strength, joints become stiffer, and the range of movement becomes more limited.

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- Muscles and joints that have been injured before are more likely to cause pain and be associated with weak muscles.
- Even though heavy loads can stress your muscles and joints, MSI injuries can happen with small movements and easy tasks too, especially if they are repeated often for long periods of time, or require you to be in an awkward posture.
- Consistent pain, tingling or numbness, weakness or redness, swelling and bruising are all signs of an MSI injury. Paying attention to these warning signs and addressing the injury early will speed up your recovery.

What you can do:

- Be familiar with the types of movements that have a high risk for MSI and the kinds of things that can increase the specific risk for you on any given day including:
 - External factors: vibration, poor light, slippery surfaces, temperature extremes, awkward postures and increased workload.
 - Internal factors: fatigue, dehydration, poor nutrition, previous injuries, smoking, osteoarthritis or diabetes.
 - Changing conditions: change in machinery, change in routine, change in your environment.
- Come to work well rested, alert and ready to focus on the task at hand. Staying hydrated and eating a healthy diet will also help reduce your risk of injury.
- Ask for help when needed! This can be anything from asking for assistance with a difficult job task, or for help on a day when you are not feeling great, or when the work is harder than usual. If you are finding the workload to be hard, talk with your supervisor or employer about ergonomic assessments and movement coaching that could help.
- Know the signs and symptoms of MSI (pain, numbness, tingling or redness, swelling and bruising, weakness) and address the injury immediately. The sooner you rest, ice, and rehabilitate, the easier and faster you will recover. See your first aid attendant at work to get assistance with the injury.
- Learn about good technique (posture, core muscle activation, ergonomics) and then use it! (see the links to resources at the end of this article).
- If you have an area of your body that is weak, painful or has restricted motion, do some restoration work before it becomes a problem. Techniques like specific exercises, stretching, massage or alternating ice and heat can speed up tissue healing. Ask your supervisor for help and see a qualified movement specialist to learn how you can regain your strength.

What Supervisors and Employers can do:

- Follow the 7 steps for preventing MSI in the workplace: Consult, Educate, Identify, Assess, Control, Train and Evaluate (see link below for more information).
- Identify jobs that have a higher risk of MSI and make sure that controls are in place to reduce the chance of injury. Remember to first try to eliminate or engineer out the MSI risk before relying on other procedures.
- Be aware of changing conditions that can increase the risk of MSI such as a change in job assignment, bad weather, or time pressures, and make sure that your team recognizes this increased risk.
- End your morning crew talk with a short warm up and encourage workers to stretch at the end of the day. If you don't know how to do this, ask if a local physiotherapist or kinesiologist could make a site visit and give you some recommendations.

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- Make sure that workers are aware of signs and symptoms for MSI and the culture is such that they are encouraged to report and get treatment at the first sign of injury.
- Check in regularly with your crew, especially those who have sustained previous injuries, smoke, or have existing osteoarthritis, diabetes or heart disease.
- Encourage workers to stay fit and pay attention to small injuries or areas of weakness before they become problematic.
- Offer fitness challenges like contests to see who can do the most push-ups, who meets their daily fitness goals or who can touch their toes. Prizes and incentives like subsidized gym memberships or fundraising for a local hockey or soccer team, can make these challenges fun and motivating. (See the link below for more ideas.)
- Hold a social event like a BBQ and have a kinesiologist or physiotherapist give a talk on maintaining joint health to your crew and their families. There are some simple exercises that can help to reduce pain for osteoarthritic knees, hips and shoulders, but it's important to learn how to do them properly.

For more information:

Preventing Musculoskeletal Injury (MSI): A Guide for Employers and Joint Committees
worksafebc.com/en/resources/health-safety/books-guides/preventing-musculoskeletal-injury-msi-a-guide-for-employers-and-joint-committees?lang=en

Understanding the Risks of Musculoskeletal Injury (MSI): An Educational Guide for Workers on Sprains, Strains and Other MSIs
worksafebc.com/en/resources/health-safety/books-guides/understanding-the-risks-of-musculoskeletal-injury-msi-an-educational-guide-for-workers-on-sprains-strains-and-other-msis?lang=en

Musculoskeletal Disorders Infographic:
cchohs.ca/images/products/infographics/download/msds.jpg

Working on Wellness Module: Physical Activity
bchealthyliving.ca/what-we-do/working-on-wellness/physical-activity/