

# Slips, Trips & Falls Injury Prevention Resource Package



**BC Forest Safety**

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## Injury Prevention: Slips, Trips & Falls



**Injury Prevention can happen in many ways** – it could be an in depth analysis of your recordable incidents, close calls and other strategic objectives within the company or it could be as simple as reviewing your first aid records to see if any patterns emerge then choosing to focus on a specific injury type.

Ultimately, your company may strive to reduce all injury types. But when it comes to creating sustainable change and reducing injuries across the operations it can help to start small and specific with the change and expand the effort as you see progress.

You may find your first aid records for your engineering crew show multiple sprains happening from jumping off a slash pile, a few bruises and cuts from falling down and a tweaked knee from tripping over gear left on the landing. It is up to you as an owner, supervisor or Joint health & safety committee to decide where to start in tackling slips, trips and fall injuries. You may decide that reducing or eliminating the multiple lost time incidents around the sprains represent the best value for your effort or it might make the most sense to focus on reducing or eliminating the more 'expensive' (in terms of claims costs, downtime and worker injury) incident of tripping.

If you are just getting started in Injury Prevention **prioritizing your efforts** and ensuring you **give enough information, support and coaching** to supervisors and workers to tackle a single or just a few issues will drive enough of an improvement to motivate your crews to take on another.

**Starting small and demonstrating improvements to yourself and your team helps to build momentum in making further changes.**



**Icy roads can cause slip related injuries**

In the attached injury prevention package we focus on tips and techniques to help you educate yourself and your workers, improve your safety management system and inspire practical solutions for loss prevention in your operations.

We encourage you to customize the material to your company, include your specific policies, procedures or equipment when conducting crew talks or program reviews.

If you need ideas for getting started contact the Council at 1-877-741-1060 for free consultation. Experienced forest safety professionals are available free of charge to provide Advocacy to you in reducing injuries in your business.





## Injury Prevention: Slips, Trips & Falls

### How to use this tool

- To enhance current injury prevention efforts within your organization
- To develop a slips, trips & falls prevention training program
- To develop a safety bulletin or internal training memo for posting
- To provide an educational component to crew safety meetings/tailgate meetings

### Recommended delivery

- The slips trips and falls presentation can be presented to workers or used to build your knowledge as a safety leader.
- Injury prevention efforts are most successfully when targeted as part of a specific strategy – prioritize what injury types to focus on and provide support to workers, supervisors, first aid personnel and Joint Health & Safety Committee members to help reduce those target areas.

### Suggested practices

- Orientation - During the orientation process workers should be introduced to information about how slips, trips and falls happen and the importance of self-care in reducing these types of injuries.
- Safety Bulletins/Alerts – You may wish to produce a Safety Alert or Bulletin for your company following a slip, trip or fall injury. This package may provide additional background information to include in the Alert.
- Crew Talks/Safety Meetings - Refresh and expand worker knowledge, A changes in terrain type, weather conditions or job tasks are great opportunities to remind workers of their slips, trips & falls awareness training during crew talks, company safety meetings or in printed company safety materials.
- On-site orientations/Visitor Orientations - Provide further information and training on moving safely through the bush or on the worksite at start-up safety meetings when establishing bush camps.
- Program Development – Management and/or the Joint Health & Safety Committee can use the information provided to further expand or develop in-house training programs.

### Innovative Applications

- If you have developed an innovative way to get the message out to your workers we would love to know! The Council shares Innovation Alerts to help companies improve their safety management system, to learn more [click here](#).







# Walking in the Woods Slip, Trip, Fall Webinar

# Workshop Outline

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## Safe Movement Principles

- a. Being a Good Industrial Athlete
- b. What are Musculoskeletal Injuries?
- c. Slip, Trip, Fall Risk Factors
- d. Practical Prevention Ideas

## **a. Being a Good Industrial Athlete**

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- Being a good Industrial Athlete means
  - Properly preparing for the activity (warm-up)
  - Having the required skills (safe movements)
  - Using the proper equipment
  - Dealing with aches and pains (discomfort)

## a. Being a Good Industrial Athlete

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## b. What Are Musculoskeletal Injuries?

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**MSI = Musculoskeletal Injury:** Disorders of the muscles, tendons, ligaments, bones / cartilage, nerves, blood vessels, and bursae.

### **TWO CATEGORIES:**

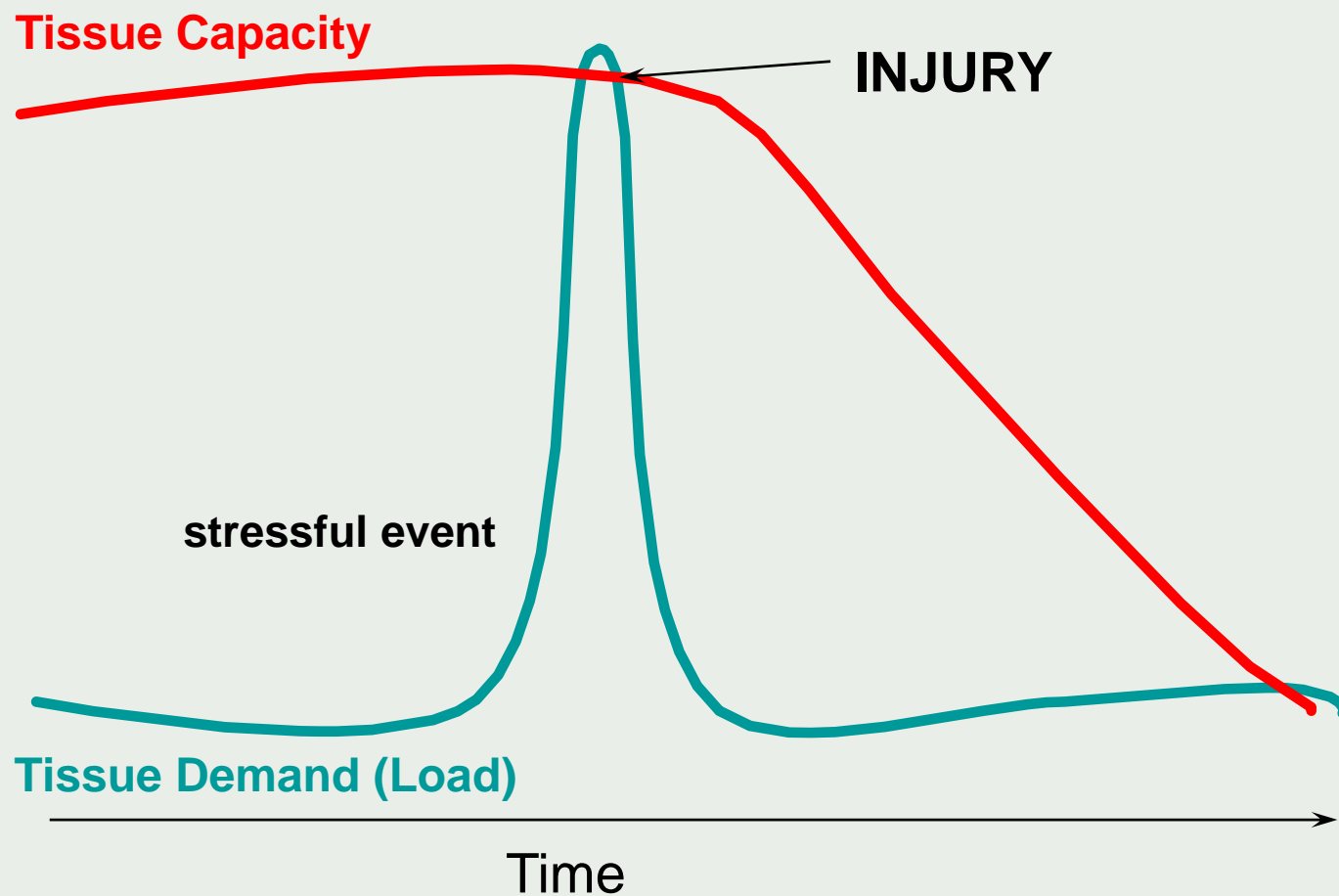
- 1) Traumatic:** one time event that sends the soft tissue past its capacity, commonly referred to as: **“SPRAINS AND STRAINS”**
- 2) Overuse:** repeated minor traumas that build up over time (without proper healing) to predispose the affected soft tissues to injury (e.g., tendinitis).



## b. Mechanisms of MSI's

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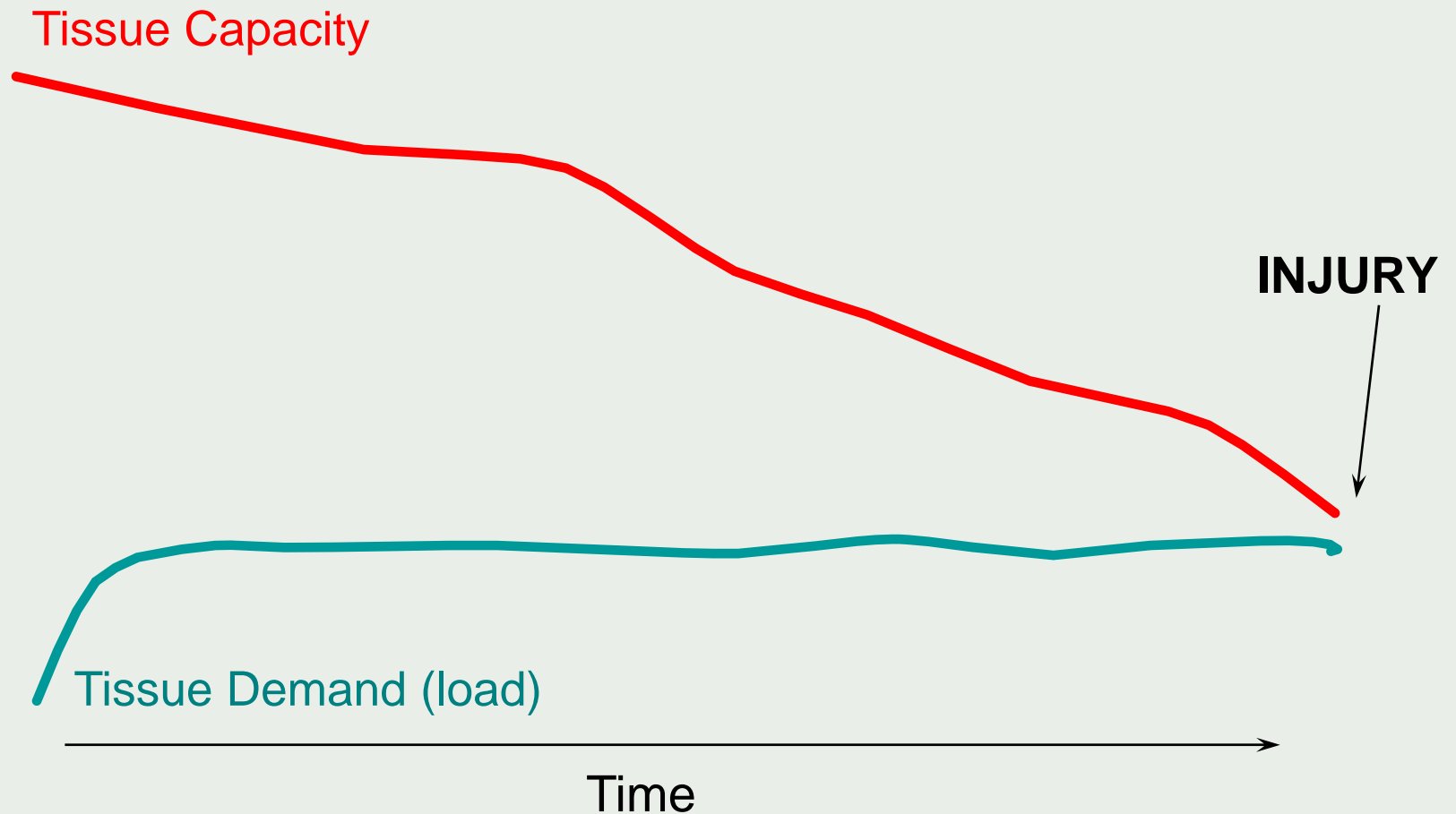
### Traumatic - One Time Event Theory



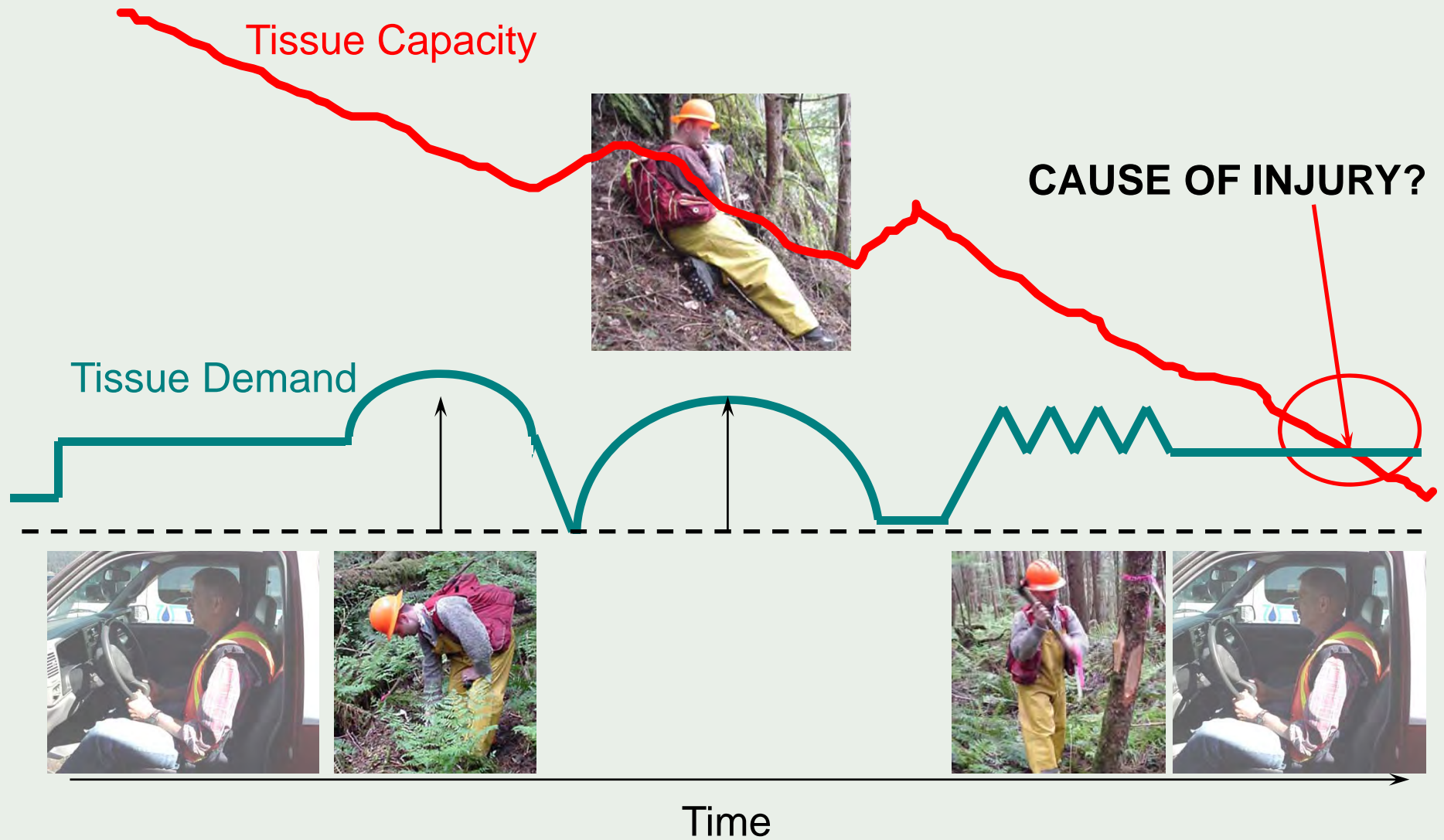
## b. Mechanisms of MSI's

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### Overuse - Low Sustained Load Theory



## b. Mechanisms of MSI's



## **c. Slip, Trip, Fall Risk Factors**

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- Workers need a combination of good muscle balance around the lower extremities – both in terms of strength and flexibility.
- Often our greatest movement risk is an imbalance around one of our joints that affects our dynamic stability.

## **c. Slip, Trip, Fall Risk Factors**

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- Environment – unstable and uneven surface
- PPE – appropriate footwear
- Personal Factors
  - Muscle imbalance – left/right, front/back, preferred (asymmetrical) movement pattern
  - Joint stiffness – creating increased mobility somewhere else



## d. Practical Prevention Ideas

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### **PPE & Risk Assessment**

- Ensure your footwear supports your feet properly.
  - Appropriate tread
  - Secure upper
- Carry loads close to your body and secured to avoid unexpected weight movement.
  - Proper vest, backpack or other
- Continuously assess the terrain and make appropriate choices.
  - Another person's trail may not be safe for you

## d. Practical Prevention Ideas

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### **Safe Movement Habits.**

- Learn how to move your body to minimize wear and tear (e.g. do not jump).
- Warm-up and stretch to prepare your body for activity.
- Incorporate lower body stabilization exercises into your regular routine.
- Practice specific trunk (core) exercises to help support the low back.

## d. Practical Prevention Ideas



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### Tools.

- Warm-up program – handout and videos.
- Posture and Movement Improvement (PMI) preparation exercises – booklet and videos.
- Observations
  - Are people warmed up and prepared for activity?
  - Are worker's boots in good repair with adequate ankle support?

## d. Practical Prevention Ideas

- Warm-up program – handout and videos.

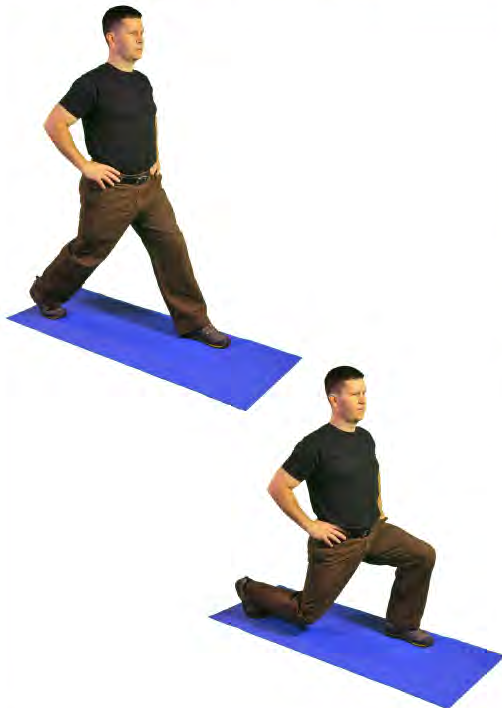
Goal	Activate and warm-up the body!		
<div data-bbox="449 646 907 1052"><div>1</div><div>5s</div><div>6x</div></div>	<div data-bbox="928 646 1289 1052"><div>2</div><div>3s</div><div>5x</div></div>	<div data-bbox="1310 646 1654 1052"><div>3</div><div>15x</div></div>	
<div data-bbox="449 1094 907 1377"><b>Core Push-Pulls</b><p>Cycle six (6) times between pulling apart and pushing in motions with the hands while doing the opposite force direction at your feet. Apply the forces for five (5) seconds before reversing. This will activate your deep low back stabilization muscles .</p></div>	<div data-bbox="928 1094 1289 1377"><b>Back Extensions</b><p>Place your hands in your low back and gently extend backwards holding the extended position for three (3) seconds, then return to normal upright standing. Repeat this exercise five (5) times.</p></div>	<div data-bbox="1310 1094 1654 1377"><b>Power Squats</b><p>Repeat fifteen (15) consecutive Power Squats. While keeping your head and chest up, reach forward while sitting back keeping heels on the ground and your lower legs vertical.</p></div>	

## d. Practical Prevention Ideas

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- Posture and Movement Improvement (PMI) preparation exercises – booklet and videos.

### Static Lunges



#### What is it?

We need dynamic stability through each leg, especially when walking on uneven terrain. Static lunges help strengthen leg and hip muscles as well as improve balance and stability.

#### How do you Perform it Safely?

Stand with feet shoulder width apart and hands on your hips, then take a step forward. Maintain the wide staggered stance position and a tall upper body position, then lower your body towards the floor keeping your front foot planted on the ground – only the rear heel can lift off the floor.

**Repeat 10 times, then repeat on the other side.**



# Workshop Summary

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- Education and Training – warm-ups, safe movements, capacity v. demand.
- Safe Workplace – very difficult to control.
- Safety Leadership – promote principles of safe movement, ensure appropriate footwear, encourage proactive discomfort management.
- Discomfort Management – use the provided exercises and ensure workers access help in a timely manner to keep their capacity high.



# Workshop Summary

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- Ultimately, it is each person's responsibility to apply their knowledge to keep themselves safe.
- In the field, you can't control the ground conditions, but you can make good choices to minimize potential risks and ensure you are well prepared for the challenges.

## Why?

A proper warm up before any physical activity increases your heart rate, body temperature and blood supply to improve flexibility, decrease muscle stiffness, soreness and the potential for injury.

## Quick Tips

- Do not do a quick, hard movement of the muscle... DO NOT BOUNCE!
- Continue breathing.
- You may experience mild stiffness or soreness when starting a new stretch or movement.
- If you feel any sharp pains, stop the stretch and seek qualified advice.

## Goal

Activate and warm-up the body!

1



5s

6x

2



3s

5x

3



15x

### Core Push-Pulls

Cycle six (6) times between pulling apart and pushing in motions with the hands while doing the opposite force direction at your feet. Apply the forces for five (5) seconds before reversing. This will activate your deep low back stabilization muscles .

### Back Extensions

Place your hands in your low back and gently extend backwards holding the extended position for three (3) seconds, then return to normal upright standing. Repeat this exercise five (5) times.

### Power Squats

Repeat fifteen (15) consecutive Power Squats. While keeping your head and chest up, reach forward while sitting back keeping heels on the ground and your lower legs vertical.



If you have any questions about your ability to perform an exercise, check with your doctor.



# General Pre-Work Warm-up

p2

4



10s

2x

## Groin Stretch

Extend one leg out to the side with your weight over your bent knee. Bend forward through the hips with head and chest up. Feel the stretch on the inner thigh. Slowly progress the stretch for ten (10) seconds,

5



10s

2x

## Reach Out & Over

While keeping your back heel on the ground, take a large step forward and reach out and across your body as far as you can. Hold this position for ten (10) seconds, alternate twice on each side.

6



10x

## Shoulder Shrugs

Do ten (10) full range circular shrugs forward and ten (10) backward.

7



10s

2x

## Anti-Slouch Stretch

Turn your arms out so your thumbs point back. Squeeze your shoulders together. Gently reach back and down while you extend the crown of your head up. Hold for ten (10) seconds, relax and repeat once.

8



10x

2x

## Deep Forearm Massage

Grasp forearm muscle with a firm grip and repeat ten (10) rotational movements as if throttling a motorcycle. Repeat on the opposite forearm. Alternate twice on each side.

9



6s

3x

## Active Forearm Stretch

Reach down with both hands/wrists and hold for six (6) seconds followed by extending up and holding for six (6) seconds. Repeat this routine three (3) times. Shake arms out after stretching.

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If you have any questions about your ability to perform an exercise, check with your doctor.

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## Modified Wall Squat



### A caution.

IF YOU HAVE PAIN in your knees, kneecaps THEN slide up the wall a bit. Feet, knees and hips stay straight and in -line, do not flare out or let knees

### What is it?

The Modified Wall Squat is a leg exercise that will help you activate your quadriceps muscles, stabilize your hip joints and mobilize your sacroiliac joints. It is necessary to perform with the hips, middle of the knee cap and middle of the foot aligned in a straight line (good alignment) to focus the activity in your quadriceps muscles.

### How do you Perform it Safely?

Stand against the wall with the small of the back and the hips pressing against the wall. Place your feet hip width apart and far enough away from the wall so that your knees are behind your ankles when you lower down the wall. Bend the knees (less than 90°) and lower your body down the wall, then push through your legs to flatten the low back against the wall.

**Keep pressing in to the wall for 30 seconds.**

Build up to a 1 minute hold.

## Bridge with Adduction



### What is it?

Let's wake up your major hip muscles, initiate your core muscles, and balance the inner and outer muscles of the pelvis! The BRIDGE with ADDUCTION exercise will help develop coordinated movement through your hips and spine, while strengthening and stabilizing with your core muscles.

### How do you Perform it Safely?

Lie on your back with your knees bent as much as possible, and your arms straight, palms up on the floor. Place a ball (or pillow) between your knees and place your feet slightly apart, but less than shoulder width. Squeeze the ball and then lift your buttocks off the floor.

**Hold for 5 seconds and repeat 10x.**



## Plank Exercise



### What is it?

You will strengthen the abdominals and shoulders stabilizers while maintaining a neutral spine position throughout. Proper shoulder joint and shoulder blade position is important for proper core activation, and leads to good mechanics in throwing athletes and job tasks working with your arms.

### How do you Perform it Safely?

Start on your hands and knees, then place your elbows on the floor directly below your shoulders. Hover your body over the floor while maintaining a neutral spine.

**Start with 5 second holds and 6 repetitions, then build to 10 second holds.**

Build to hold the position 2 x 30 seconds, then to 1 x 60 sec.

## Combined Spinal Rotation



### What is it?

A simple yet effective exercise to improve your spine movement and build your hips and shoulders stabilizers. Activating all postural muscles from the shoulders down to the hips. Improve coordination and stability in the hips and shoulders, and improve mobility of the spine.

### How do you Perform it Safely?

Get on your hands and knees (the hands should be directly under the shoulders and the knees under the hips). Smoothly round up the back and curl the head under, then smoothly sway the back down as the head looks up. Keep your arms straight and do not sway your hips forward and backward.

**Repeat both movements 10x.**

## Leg Lock Bridge



### What is it?

This exercise helps isolate the muscles required for active hip extension of one leg while training complimentary mobility of the other leg. This sequencing is important for dynamic stabilizing while walking.

### How do you Perform it Safely?

Lie on your back, knees bent, feet together. Bring one knee to chest and hold, then lift bum by pushing through foot on floor. Do not let knee come away from the chest as you lift. **Repeat 10x both sides.**

## Static Lunges



### What is it?

We need dynamic stability through each leg, especially when walking on uneven terrain. Static lunges help strengthen leg and hip muscles as well as improve balance and stability.

### How do you Perform it Safely?

Stand with feet shoulder width apart and hands on your hips, then take a step forward. Maintain the wide staggered stance position and a tall upper body position, then lower your body towards the floor keeping your front foot planted on the ground – only the rear heel can lift off the floor.

**Repeat 10 times, then repeat on the other side.**

## Plank Exercise



### What is it?

You will strengthen quadratus lumborum, transverse abdominus and abdominal obliques as spine stabilizers but minimize the load on the spine. Maintaining a neutral spine and proper combinations of muscle recruitment will ensure spinal stability.

### How do you Perform it Safely?

Lie on your side supported by the elbow with your hips and knees quite bent. Move into the sideplank position with an accordion-like unfolding of the hips, all the time keeping a braced neutral spine. **Start with 5 second holds and 10 repetitions**, then build to 1x30 seconds.

## Combined Spinal Rotation



### What is it?

This exercise is a **MUST DO** to improve your strength and coordination by isolating active thoracic spine mobility and activating shoulder girdle stability. It is a great combination exercise to get your spine and rib cage moving better.

### How do you Perform it Safely?

In quadruped position with one hand behind-head on the base of the neck. Flex the spine by bringing your elbow down and across towards the opposite knee, hold for 1 second then extend the spine by bringing your elbow out and up towards the ceiling, hold for 1 second, then bring it back to the starting position. The non-moving arm should be soft at the elbow with no movement during the exercise and there should be no movement at the hips.

**Repeat 10 times on each side.**



## Crew Talk

### Walk Carefully on Slopes

Date of talk: \_\_\_\_\_

#### Description :

A worker was walking down a shallow sloped (10%), rock armored embankment that had a thick cover of wet silt. While the worker was carefully making his way down toward the stream channel he slipped, falling forward onto an exposed boulder in the stream bottom. The worker impacted the boulder and caused damage to the right chest area. As time progressed the injury went from external to having internal issues.

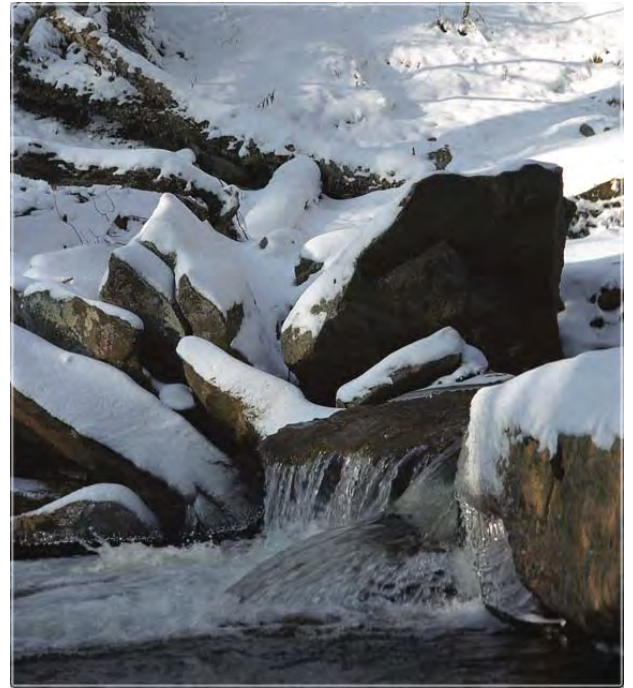
Source: Forsite Engineering and Geoscience

#### Contributing Factors:

Wet and slippery conditions.

Inadequate assessment of risk.

Broken and rough terrain.



#### Recommended Preventative Actions:

In your hazard assessment, consider exposure, hazard and consequence when traversing down this type of slope.

Always use three point contact when traversing rough terrain.

Consider the use of a walking stick where footing may be uncertain and three point contact may not be possible.

#### Discussions / Follow-up Actions:

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Names of Attendees:		



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## **FOREST INDUSTRY SAFETY ALERT**

### **Close Call/Serious Incident**

**Location:** Stewart Creek near Christina Lake

**Date of Incident:** February 2, 2009

#### **Details of Incident:**

Logs were spread out over the landing and road in order to be bucked to length. The skidder operator decided he would help the landing buckler by holding the end of the tape in order to make the job go quicker. The logs were covered in 10cm of fresh snow and the skidder operator was wearing winter boots with a good tread. Work space was confined because equipment was parked very close to the logs and there was landing debris so the worker walked on the logs as he helped the buckler. He had successfully helped to measure the last log without incident but then, as he moved to jump off the log, suddenly slipped off it, landing on a chunk of wood on the ground. This caused considerable pain and he was unable to walk without assistance. The injury was a badly bruised hip and torn muscles which put him off work for several months.

#### **Recommended Preventative Actions:**

1. Assess your work area to determine the presence of any hazards and take steps to eliminate or reduce those hazards. Extra caution is required while working in winter conditions.
2. Practice good housekeeping by keeping areas where workers must walk free of slash and debris.
3. Assess conditions and wear appropriate PPE including correct footwear.
4. Workers are reminded that they are collectively and individually responsible for the safety of all workers and all worksites.
5. Continually assess the work area for changing conditions and changing risks or hazards. DO NOT become complacent about the work environment.

**For more information, please call: Rick Johnson, Safety Coordinator 250-365-9983**





## Crew Talk

### Clear Stairs and Walkways

Date of talk: \_\_\_\_\_

#### Description :

With the onset of snow and -0 conditions comes the risk of slips and falls on stairs and walkways that have not been cleaned off.

Areas around entrances to buildings can have snow and ice build up overhead that creates a potentially hazardous condition.

#### Contributing Factors:

Snow and ice build up on stairs and walkways.

Heat loss around doors and windows can cause ice to build up overhead.

Inadequate inspections of facilities.



#### Recommended Preventative Actions:

Ensure your winter weather conditions protocol is being implemented.

At temperatures below - 6 degrees Celsius, salt may be ineffective, therefore sand may be necessary.

Install heat tape or guarding along the edge of the roof, where there is potential to fall and cause injury.

Inspect facilities regularly.

#### Discussions / Follow-up Actions:

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Names of Attendees:		

# Western Forest Products Duke Point Hazard Alert

# 72

Date of Incident: **December 16, 2008**

Site: **Duke Point Sawmill**

Experience:

**Incident : Employee was pushing a tech cable reel and slipped on the ice and strained his knee**

**Description:**

**The employee was rolling an 27" diameter wooden reel of tech cable across the yard from the planer mill to the sawmill. As he was rolling this reel he slipped and strained his knee.**

**Upset Conditions:**

- 1. Walkway was covered with snow and ice**



## Learning and Suggestions:

- 1. Ensure walk areas are cleared and salted.**
- 2. When walking in snowy icy winter conditions take extra care**
- 3. Ask for help or use moving/lifting devices when moving products/materials in poor conditions**

For more information contact: Terry Baker 250-714-9310

Safety Web Inc. # \_\_\_\_\_





Slips, trips and falls are the second most common workplace injury. Stay on your feet with proper footwear, being aware of where you step and carrying only what is needed. **It's easier to stay well than get well.**

[www.bcforestsafe.org](http://www.bcforestsafe.org)



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# STAYING SAFE IS A BALANCING ACT.

←  
OVERCAST

←  
PILED SLASH

←  
LOOSE BARK

←  
WET WOOD

←  
UNEVEN GROUND

←  
ROOTS

←  
WET GRASS

←  
DEEP UNDERGROWTH

←  
SKID TRAIL RUTS



BC **Forest Safety** Council  
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Walking in the woods can trip you up. Keep focused.  
Step over, not on, slash. It's easier to stay well than get well.

[www.bcforestsafe.org](http://www.bcforestsafe.org)



# STAYING SAFE IS A BALANCING ACT.

POOR LIGHTING

SNOW ON LOGS

ROCKS

LOOSE BARK

HIDDEN ROOTS

ICE

SNOW COVERED GROUND

FROZEN, RUTTED GROUND



BC **Forest Safety** Council

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Winter walking conditions can be hazardous. Wear proper footwear. Take smaller steps. Stretch to stay limber. It's easier to stay well than get well.

[www.bcforestsafe.org](http://www.bcforestsafe.org)





STICKER 2

3 X 3 INCHES

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A circular sticker with a dark, moody photograph of a forest. The trees are tall and thin, with some light filtering through the canopy. The overall tone is dark blue and black.

**IT'S EASIER  
TO STAY WELL  
THAN GET WELL**

**BC Forest Safety Council**