



# **MOL inspection blitz on: MSDs, Slips, Trips and Falls in Mines and Mining Plants**

**October 2 - November 30, 2017**

1.888.730.7821 (Toll free Ontario)  
[workplacesafetynorth.ca](http://workplacesafetynorth.ca)



# Welcome to the webinar: Be prepared for MOL inspection blitz on MSDs, Slips, Trips and Falls in Mines and Mining Plants

- Thank you for joining us!
- We will be getting started at **10:30 am ET**
- To access the audio portion of this webinar, please phone:
  - **1-866-613-5223**
  - Access code: **3755200 #**
- We will have the phone lines on mute for the presentation.
- If you have any questions, please use the **Chat Box** in the top right corner of the screen.
- For assistance with the webinar, phone the WSN office at:
  - **1-888-730-7821 ext. 0**

# Webinar co-hosts

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# Housekeeping notes

- Please note the 'CHAT BOX' in the top right hand corner of your screen. At any time during the presentation, feel free to type in your questions. We will try to answer some questions as we go, but most will be answered right after the presentation.
- During the webinar, the phone line is set up so that you're able to hear us, but we can't hear you. Please use the chat box for questions or assistance with the webinar.
- For your reference, this presentation will be available for download at [workplacesafetynorth.ca](http://workplacesafetynorth.ca) under the 'Resources' tab the day after the webinar.

# Agenda

- Introduction and Injury statistics
- Falls and MSD hazards, categories and controls
- WSN information and resources
- What Ministry of Labour Mining Health and Safety Inspectors will be looking for during the blitz
- Ontario requirements pertaining to falls in the workplace in mines and mining plants (Occupational Health and Safety Act, Regulation 854)
- Q & A

# MOL Blitz Overview

The purpose of the inspection blitz:

- Raise awareness among workers and employers of health and safety issues involving falls from elevation and ground level in the workplace, and Musculoskeletal Disorders (MSDs) in mines and mining plants.
- Raise awareness of the importance of having a program for the protection of workers from falls and MSD hazards, work practices and controls to falls and MSD hazards in mines and mining plants.
- Promote awareness and compliance of mines and mining plants to regulatory requirements.
- Ensure the workplace parties are complying with the OHSA and its regulations

# WORKPLACE HEALTH AND SAFETY SNAPSHOT FOR ONTARIO MINING SECTOR IN 2016



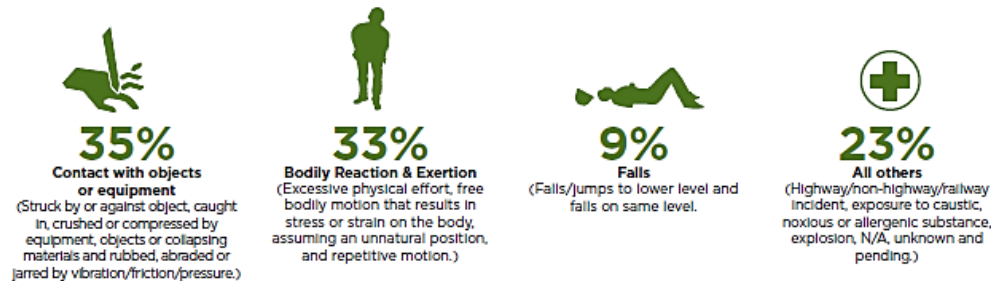
**21,080**

Full-time employees

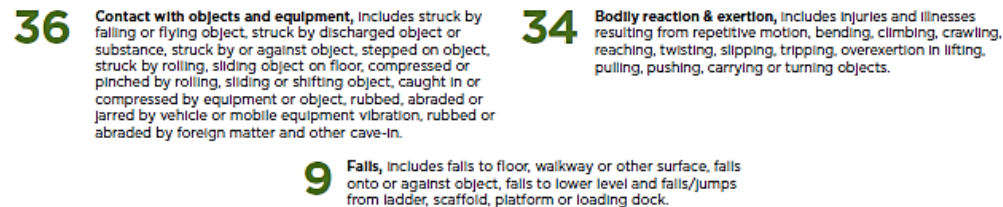


## EVENTS RESULTING IN LOST-TIME INJURY OR ILLNESS

Injury or illness severe enough to require one or more days lost from work



## MOST COMMON LOST-TIME INJURIES



## TOP 3 OCCUPATIONAL DISEASES

Based on approved WSIB claims for healthcare, being off work, loss of wages, or permanent disability.



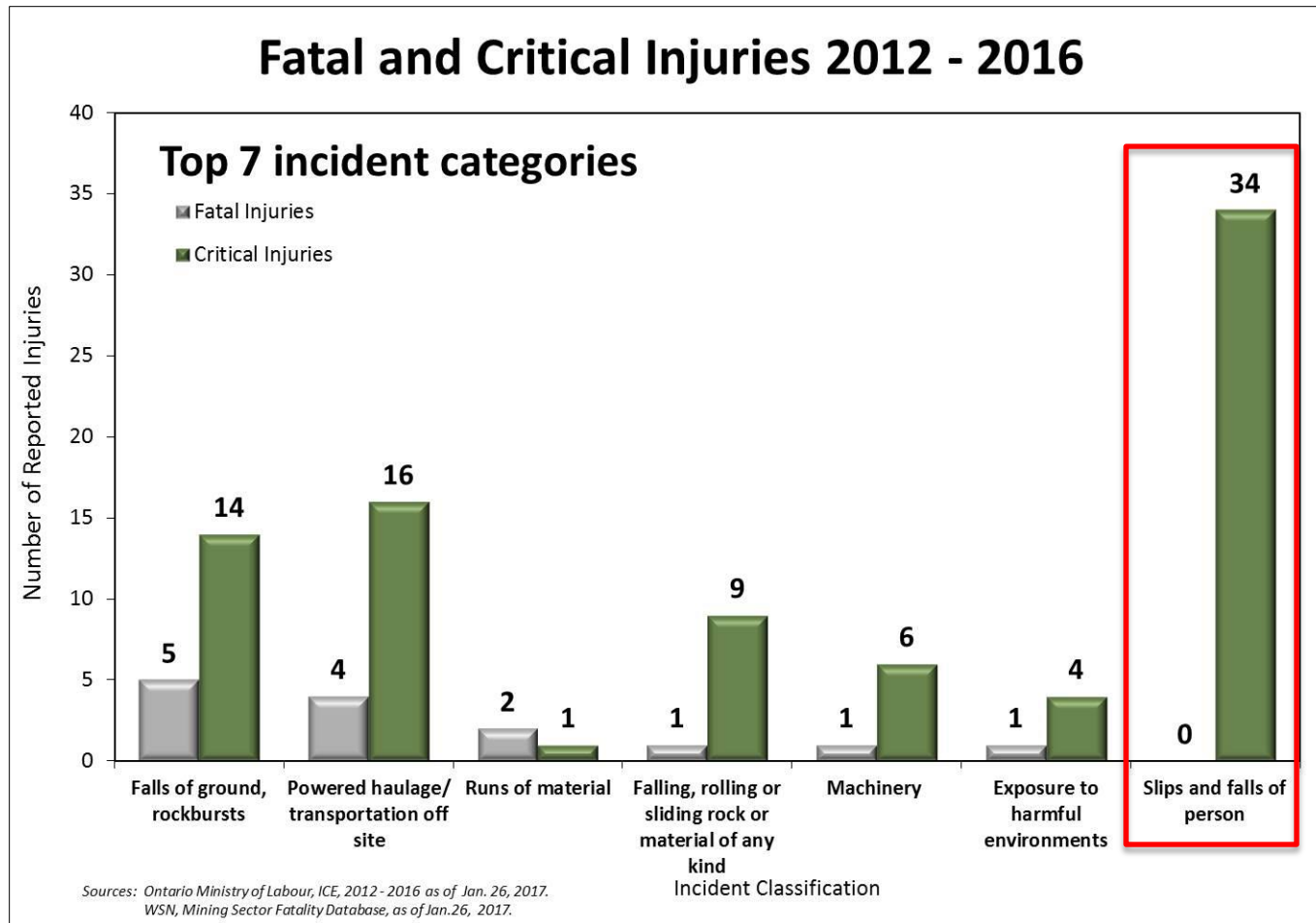
WSIB Enterprise Information Warehouse as of February 28, 2017. RG 110, 113, 119 WSN March 2017.



For more detailed statistics and trends  
[workplacesafetynorth.ca/resources/mining-statistics](http://workplacesafetynorth.ca/resources/mining-statistics)

# Ontario Mining Industry

## Fatal and critical injuries...



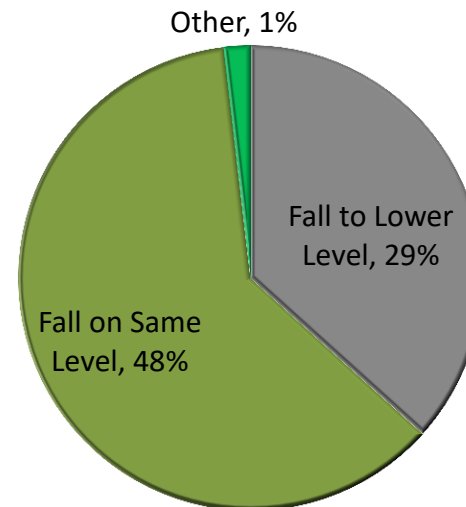


# Ontario Mining Industry

## WSIB Allowed Lost-time Injuries 2012 - 2016

Event or Exposure Category	RG 110 Gold Mines		RG 113 Nickel Mines		RG 119 Other Mines		Total	
	#	%	#	%	#	%	#	%
Bodily reaction & exertions	87	30%	169	49%	80	40%	336	40%
Contact with objects & equipment	101	35%	88	25%	55	28%	244	29%
<b>Falls</b>	<b>51</b>	<b>18%</b>	<b>21</b>	<b>6%</b>	<b>37</b>	<b>19%</b>	<b>109</b>	<b>13%</b>
Exposure to harmful substances or environments	17	6%	31	9%	11	6%	59	7%
Transportation incidents	20	7%	25	7%	15	8%	60	7%
Other events or exposures	10	3%	13	4%	2	1%	25	3%
<b>Total</b>	<b>286</b>	<b>100%</b>	<b>347</b>	<b>100%</b>	<b>200</b>	<b>100%</b>	<b>833</b>	<b>100%</b>

### Fall of Person Lost-time Injuries N=109



# Ontario Mining Industry – MSD

## Lost-time Injuries by Event Code 2012 - 2016

Event Code	RG 110 Gold Mines		RG 113 Nickel Mines		RG 119 Other Mines		Total	
	#	%	#	%	#	%	#	%
<b>Bodily Reactions and Exertions:</b>								
Pushing/Pulling/Lifting/Turning/Body Position	16	21%	44	28%	21	29%	81	26%
Overexertions Not Elsewhere Classified	28	37%	51	32%	20	27%	99	32%
Bending	8	11%	11	7%	11	15%	30	10%
Repetitive Motion or use of tools	19	25%	29	18%	8	11%	56	18%
Pulling/Pushing Objects	2	3%	17	11%	7	10%	26	8%
Slip, twist, trip (no fall)	3	4%	4	3%	6	8%	13	4%
Other	0	0%	1	1%	0	0%	1	0%
<b>Total</b>	<b>76</b>	<b>100%</b>	<b>157</b>	<b>100%</b>	<b>73</b>	<b>100%</b>	<b>306</b>	<b>100%</b>

Source: WSIB, EIW, Claim Cost Schema, as of March 31, 2017.



# Fall Hazards and Locations in the Workplace (Mines and Mining Plants)

- Unguarded opening (mine shafts, ore passes, open stopes, etc.)
- Elevated work platforms with missing or inadequate guard rail system
- Working from scissor lifts or man lifts and elevated platforms without proper safeguards in place
- Operating equipment
- Working from ladders
- Condition and maintenance of escape-ways



# Fall Hazards and Locations in the Workplace (Mines and Mining Plants)

- Uneven ground conditions
- Slippery surfaces (oily, greasy, spills of wet, etc.) or slippery or obscured hazards concealed by mud or water
- Tripping hazards (cluttered workplace, unsecured mats, debris and cables on walkways, unsuitable footwear, etc.)
- Others



# Fall Hazards Categories

- Control conditions (e.g. barricades, travel restraint system on platforms such as railings, etc.)
- Equipment conditions (ladders, manlift, scissor deck, Alimak platform, etc.)
- Fall arrest system conditions (e.g. anchor points, harness, lifeline, lanyard, shock absorber, fall arrestor, etc.)
- Workplace conditions (e.g. poor housekeeping, working surface conditions, lighting, etc.)
- Human factor (e.g. failure to follow procedures, lack of training, physical limitations, etc.)



# Fall Hazards Controls

- Engineering controls
  - Properly designed barricades, travel restraint system on platforms such as railings, ladders, manlift, scissor deck, Alimak platform, etc.
- Administrative controls
  - Availability of effective policies and procedures
  - Ensure workers are trained
  - Effective supervision



# Fall Hazards Controls

- Safe work practices
  - Ensure workers follow policies and procedures
  - Effective supervision
- Personal protective equipment (PPE) provided to workers,
  - Ensure that workers are trained on proper use and care of PPEs
  - Ensure that worker are trained to inspect PPEs

**WORKING AROUND OPEN HOLES**  
ALL MINES

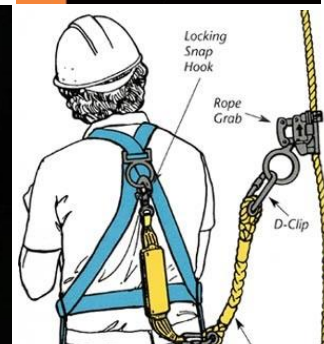
Non-Routine Hazardous Tasks Procedures	Regulation Procedures	Mine Site Comp. Procedure	Mine Site Procedure	All Mines Procedures
Document Number	Prepared By	Document Owner	Issue Date	
		Doug Brown	September 1992	
			Rev. June 1995	
			Rev. January 2003	
	Revised By		Revised Date	
	Doug Brown		May 2003	

Occupation:  
 Mine Development Leader  
 Mine Protection Leader  
 Miner A  
 Miner B  
 Mine Serviceman A

Objective/Purpose:  
 Tools and Equipment:  
 Slopers, jacking or mechanical hoist  
 Rebar shilly  
 Shill and fast resin cartridges  
 Domes nuts  
 Plates  
 Cement grout  
 Screen pasher, if required

Preparation:  
 1. Check work area and equipment. Scale the area following All Mines Procedure General Scaling.  
 2. Check the shelf life on the resin cartridge box to ensure that the resin is still usable.  
 3. Drill rebar hole following All Mines Procedure for drilling with a Jacking, Slopers or Mechanical Hoist. The drill hole must be the smaller diameter hole which is compatible with the rebar and cartridge diameter selected.

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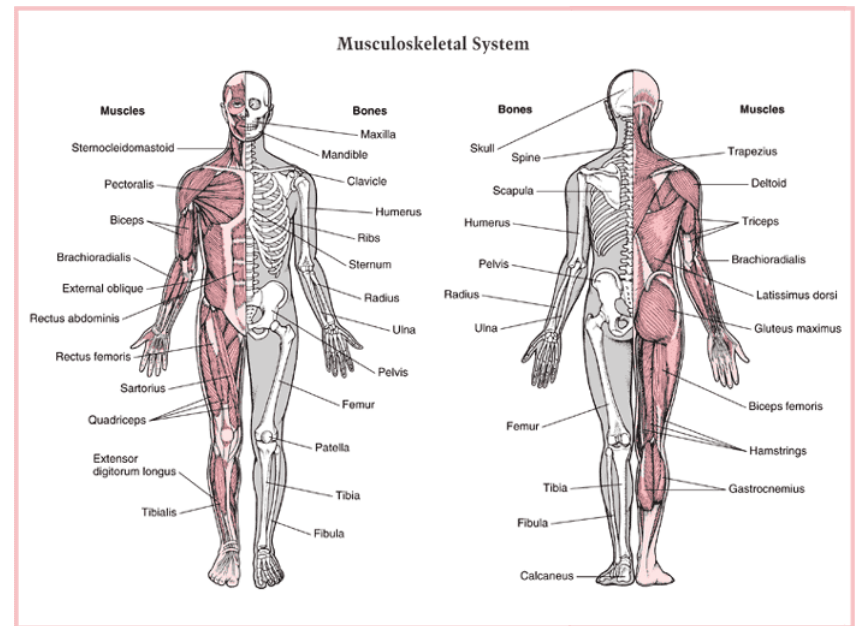




# Musculoskeletal (MSD) System Components

The musculoskeletal system includes:

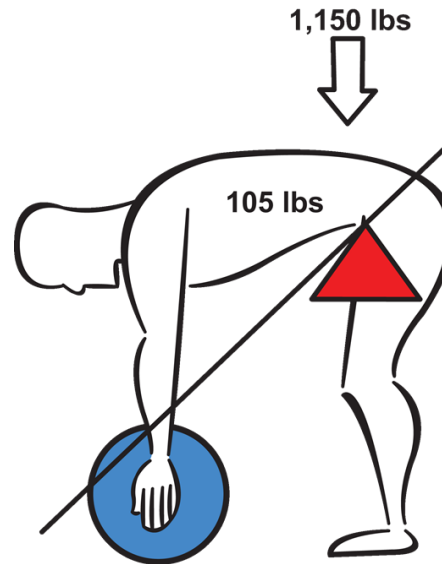
- Muscles, tendons and tendon sheaths
- Joints and ligaments
- Spinal column and discs



# Causes of MSDs

## Primary risk factors:

- High force
- Awkward postures
- Repetition



# Other MSD Risk Factors

## Secondary risk factors:

- Contact stress
- Vibration
- Temperature (too hot or too cold)
- Work organization – (Mining piecework)
- Work methods

# Information and Resources

## WSN Fall Prevention Posters - Stop falls before they stop you

<http://www.workplacesafetynorth.ca/resources/stop-falls-they-stop-you>

Free download



## WSN Every Worker Health and Safety Magazine - Slips, Trips and Falls No Laughing Matter

<https://www.workplacesafetynorth.ca/sites/default/files/pdf/Every-Worker-Fall-2011-Online.pdf>

16 pp. Free download



# Information and Resources

## WSN - Fall Protection Leader's Guide for Safety Meeting

<https://www.workplacesafetynorth.ca/sites/default/files/Fall%20Protection%20Leader%20Guide.pdf>

8 pp. Free download

## WSN - Sample: Inspection Checklist for Slips, Trips and Falls Specific

[http://www.workplacesafetynorth.ca/sites/default/files/Sample%20Inspection%20Checklist%20-%20Slips%20Trips%20and%20Falls%20Specific\\_0.pdf](http://www.workplacesafetynorth.ca/sites/default/files/Sample%20Inspection%20Checklist%20-%20Slips%20Trips%20and%20Falls%20Specific_0.pdf)



### Health and Safety Resources

#### Caution to Users

Many of the resources in this archive were originally prepared by WSN's predecessor organizations for use by industry clients. While much of the information and many of the forms included with them are still valuable, users should recognize that examples, contact information and data such as legislative references may be out of date. The resources are offered as free tools for companies to use in an effort to continuously improve their health and safety systems. But users of these resources also need to ensure that they are aware of the most recent legislation, equipment and processes, as well as current practices.



### Inspection Checklist

#### Erase the Hazard

Identifying fall hazards involves knowing what to look for and where. The sample inspection list provides guidance on where employers and employees should look for slips, trips and fall hazards at their worksite. Inspection areas include:

- Aisle ways and passageways
- Conveyors
- Cords and escape ways
- Floors
- Ladders
- Lights
- Platforms & scaffolding
- Roadways
- Stacking and storage
- Stairs
- Waste disposal

Download the Sample Inspection Checklist - Slips, Trips and Falls

# Information and Resources

- WSN - Fall Protection: Take Ten to Safety  
<http://www.workplacesafetynorth.ca/sites/default/files/Fall%20Protection%20Presentation.pdf> 26 pp. Free download
- MOL Working at Heights Training Program Standard  
<http://www.labour.gov.on.ca/english/hs/pubs/wah/>
- MOL Health and Safety Awareness Training for Workers and Supervisors - Working at Heights  
<http://www.labour.gov.on.ca/english/hs/training/index.php>
- MOL Fact Sheet - Prevent slips, trips and falls in all workplaces  
[http://www.labour.gov.on.ca/english/hs/sawo/pubs/fs\\_falls.php](http://www.labour.gov.on.ca/english/hs/sawo/pubs/fs_falls.php)
- MOL calls for action on workplace falls  
<http://www.workplacesafetynorth.ca/news/news-post/ministry-labour-calls-action-workplace-falls>



# Information and Resources

- WSN - How to apply new working-at-heights training standard to mining sector Free download <http://www.workplacesafetynorth.ca/news/news-post/how-apply-new-working-heights-training-standard-mining-sector>
- Centre for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH) Fall Protection Part 1 DHHS (NIOSH) Publication Number 2004-Self Inspection Checklist <http://www.cdc.gov/niosh/docs/2004-101/chklists/r271a~1.htm>
- CDC NIOSH Investigation of a Slip/Fall Accident <http://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/isfa.pdf>
- Canadian Centre for Occupational Health and Safety (CCOHS) - Safety Hazards: Prevention of Slips, Trips and Falls [http://www.ccohs.ca/oshanswers/safety\\_haz/falls.html](http://www.ccohs.ca/oshanswers/safety_haz/falls.html)
- CCOHS - e-Course on Preventing Falls From Slips and Trips [http://ccohs.ca/products/courses/preventing\\_falls/&print=true](http://ccohs.ca/products/courses/preventing_falls/&print=true)

# **MSDs, Slips, Trips, Falls in Mines & Mining Plants**

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**Ontario Ministry Of Labour  
2 October – 30 November 2017**

**Blitz Information  
Webinar September 13<sup>th</sup> 2017**



## NOTES

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The material in this presentation is being provided as information only. It is not intended to replace the Occupational Health and Safety Act (OHSA) or the regulations and reference should always be made to the official version of the legislation and regulations.

It is the responsibility of the workplace parties to ensure compliance with the legislation. This document does not constitute legal advice. If you require assistance regarding the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.

## IMPORTANT NOTE REGARDING THIS BLITZ

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While this presentation references specific sections of Regulation 854 to highlight some key focus areas that MOL inspectors will be looking for compliance with during this blitz, employers should be aware of all of the regulatory requirements.

MOL inspectors may also check for compliance with requirements in the OHSA (for training, procedures, etc.) or other regulations that apply to mines and mining plants.

## REASONS FOR THIS MOL BLITZ

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- MSDs, slips, trips and falls are among the leading causes of injuries resulting in workers missing time at work in Ontario.
- Every day, 80 workers in Ontario are injured in a fall – that’s one every 20 minutes.
- There are approximately 17,000 lost-time injuries in Ontario each year due to workplace falls.
- 65 per cent of all fall-related injuries are from slips and trips, i.e. same level falls.
- Between 1991 and 2015, 10 workers died in Ontario mines as a result of incidents involving falls.
- MSDs comprise 36% of all lost-time injuries.
- Hand-arm vibration is the second most common occupational disease.

[Data comes from Workplace Safety North article: MINISTRY OF LABOUR CALLS FOR ACTION ON WORKPLACE FALLS](#)

## REASONS FOR THIS BLITZ, cont.

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Preventing such injuries is a key goal of every safe and healthy workplace. Employers must:

- Provide information and instruction to workers on MSD, slip, trip and fall hazards.
- Encourage workers to report MSD, slip, trip and fall hazards.
- Identify and assess the risk of job-specific MSD, slip, trip and fall hazards.
- Establish controls to eliminate or reduce workers' exposure to MSD, slip, trip and fall hazards.
- Ensure the control measures are working.

# BLITZ FOCUS: MANUAL MATERIALS HANDLING AND HAND-ARM VIBRATION

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Mining inspectors will visit mines and mining plants to:

- check if and where MSDs are occurring
- check JHSC minutes to see if any MSD hazards have been identified
- check to see if workers have been provided with information and instruction regarding MSD hazards in their work
- ensure manual materials handling duties are being performed in a safe manner, and
- check if workers are being exposed to hand-arm vibration, and if so, what precautions are being taken.

# BLITZ FOCUS: Manual Materials Handling

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**Items are being manually handled in a safe manner**

*Occupational Health and Safety Act*

- *Employers shall take every precaution reasonable in the circumstances for the protection of the worker (s.25(2)(h))*
- *Employers shall maintain equipment, materials and protective devices in good condition (s.25(1)(b))*

Is equipment being maintained, such as wheels on a cart, to ensure manually handling demands are minimized?

- *Employers shall provide information, instruction and supervision to a worker to protect the health or safety of the worker (s.25(2)(a))*
  - Training provided to workers and supervisors for safe lifting / handling methods?

**Access to a work place for Manual Material Handling**

- *Safe means of access to a work place (O.Reg 854 s. 46)*

# Enforcement Focus

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INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

Storage and transport of material

- Layout and assistive devices to control handling demands

Material Handling Practices

- Are procedures, assistive devices in place for set-up, operation, maintenance of equipment?

Access for material handling without undue effort, awkward postures, or risk of falls

- Condition of walkways
- Suitable design of access systems: widths, heights

Consider set-up, production, maintenance



# BLITZ FOCUS: Hand Arm Vibration

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## *Occupational Health and Safety Act*

- *Employers shall take every precaution reasonable in the circumstances for the protection of the worker (clause 25(2)(h))*
- *Employers shall provide information, instruction and supervision to a worker to protect the health or safety of the worker (clause 25(2)(a))*
  - Hazard Identification, good work practices, glove use (PPE)
- *Employers shall maintain equipment, materials and protective devices in good condition (clause 25(1)(b))*
  - Condition of tools, bits to reduce vibration

## INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- Are Hand Arm Vibration hazards present, identified?
- Are workers instructed in hazard identification, good practices; and provided with PPE?
- Are tools, equipment suitable, maintained?



## BLITZ FOCUS: Administrative Review

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Review Injury/Illness History, Reporting, Investigation (OHSA s. 51, Reg. 854 s. 21)

- JHSC Minutes: Review

Measures and procedures: protection from MSD: for example

- Manual Materials Handling procedures
- Purchasing: Consideration of Handling Demands, Vibration

Training and Instruction: MSD Hazard recognition (OHSA s. 25(2)(a))

- Risk assessment (O. Reg 854 s. 5.1, 5.2 and 5.3)

Are MSD hazards considered in Risk Assessment?

- Manual Materials Handling
- Work postures
- Hand-Arm Vibration

# BLITZ FOCUS: Measures and Procedures

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## **Measures and procedures in place for the protection from slips, trips and falls in the work place.**

*Regulation 854 Mines and Mining Plants*

*Access to Workplaces*

- *Safe means of access to a work place (section 46)*
- *Platform more than 1.5 meters above floor requires railings (section 46 (3))*
- *Access by use of a stairway (section 46 (7))*
- *Stairway requirements ( Section 46 (9))*
- *Ladder Access (section 46 (8))*
- *Ladder requirements (section 47)*
- *Fixed ladder requirements (section 48)*
- *Portable ladder (section 49)*
- *Ladders being used in the shaft (section 50-51)*

# BLITZ FOCUS: Escape Ways

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## Requirements for escape way maintenance

Regulation 854

- *The escape way shall be inspected at least once a month by a competent person who shall give a written report of such inspection to the supervisor in charge of the mine. (section 37 (2)(F))*

Escape must be available and in safe condition should an emergency occur.

# BLITZ FOCUS: Fall Arrest Systems

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## Fall arrest system requirements

### *Regulation 854*

- *Fall arrest systems requirements (section 14)*
- *Raised platform worker protection (section 190)*
- *Bulk material movement worker protection (section 84)*
- *Use of fall arrest when barring material (section 94)*
- *Use of fall arrest during bin work (section 60)*

### *Occupational Health and Safety Act*

- *Employers shall maintain equipment, materials and protective devices in good condition (clause 25(1)(b))*
- *Workers shall use or wear the equipment, protective devices or clothing that the worker's employer requires to be used or worn (clause 28(1)(b))*

# BLITZ FOCUS: Falls

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## Protection of Hazardous Areas

### *Regulation 854*

- *Openings which constitute a hazard shall be fenced or guarded (section 59)*
- *The employer needs to establish procedures to ensure that workers are not being exposed to hazards underground by having barricades, fencing or other suitable means (section 68)*
- *Protection of mine openings (section 18)*
- *Mining plans showing mine openings (section 22 (1)(a)(iv))*

# BLITZ FOCUS: Training

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## Worker Training

### *Occupational Health and Safety Act*

- *25. (2) (a) An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker.*
- Worker training: Inspectors will check that workers were properly trained and supervised to prevent injuries and deaths from falls hazards. They will also check that workers are aware of their right to refuse unsafe work. The training needs to be site specific to protect workers from what they will be exposed to.

## Ministry of Labour

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### **Health and Safety Contact Centre**

**Toll-free: 1-877-202-0008**

**TTY: 1-855-653-9260**

- Report incidents, critical injuries or fatalities.  
If this is an emergency call 911 immediately.
- Workplace health and safety inquiries.
- Report unsafe work practices.

# MSD Resources

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- Ministry of Labour: <http://www.Ontario.ca/MSD>
- [Workplace Safety North – Tips for Eliminating and Controlling MSD Hazards](#)
- [Workplace Safety North – Guideline for Musculoskeletal Disorder \(MSD\) Prevention Program](#)
- [Centre for Research Expertise in Occupational Disease – Hand-Arm Vibration Syndrome \(HAVS\)](#)



## Tools

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- [Ministry of Labour](#), Fall Hazards

<http://www.labour.gov.on.ca/english/hs/topics/falls.php>

- [WorkPlace Safety North WSN](#), Call for action on workplace falls

<https://www.workplacesafetynorth.ca/news/news-post/ministry-labour-calls-action-workplace-falls>

- [Regulations for Mines and Mining Plants](#), E-Laws

<https://www.ontario.ca/laws/regulation/900854?search=Reg+854>



[workplacesafetynorth.ca](http://workplacesafetynorth.ca)

