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Every year, workers are injured or killed when working on or around stockpiles of earth, clay, sand, or gravel. Often the victim is the driver of a haul truck, loader, or bulldozer, but occasionally it can be a pedestrian or the driver of a highway truck, utility truck, or scraper.

In February of 2008, a worker was breaking down frozen gravel on the surface of a stockpile with an excavator. A large amount of gravel suddenly broke free and hit the side of the excavator’s boom and cab, injuring the worker’s foot. The company was fined $65,000 for failing to remove frozen material from the stockpile.

**Explain the dangers**

- When material is being removed from a stockpile, the slope could collapse or large frozen chunks of material could fall off and severely injure the operators.
- When work is being done at the top of a stockpile, the equipment can weaken the crest of the pile. Drivers have died when their equipment tipped over and rolled down the slope.
- Equipment operating at the top of the stockpile could drive over the edge or through a berm.
- Pedestrians at the bottom of the slope could also be seriously injured by falling material.

The stability of the slope can quickly change with fluctuations in the weather (changes in moisture, freezing and thawing, etc.).

**Identify controls**

Consider some of these simple safety tips.

**Before starting work**

- Use the site plan to remind yourself of the location of structures, stockpiles, and roadways.
- Never exceed the maximum height of any stockpile. Maximum height must be determined by an engineer.

**When loading**

- Never enter an active loading area.
- Never leave the cab of your vehicle while loading is in progress.
- For a linear stockpile, excavation must proceed along the working face. For a conical stockpile, it must proceed around the toe.
- If you are removing earth, clay, sand, or gravel with powered equipment, the working face should be sloped at the angle of repose, or the vertical height of the working face should not be more than 1.5 metres (5 feet) above the maximum reach of the equipment.
- If the stockpile is too high, some of the material should be bumped over the crest by means of a bulldozer or long-arm backhoe and buffer material. The area below should be cleared.
- Never undercut the working face or leave a hollow in it.

**When operating on top of a stockpile**

- Use a bulldozer or loader, together with buffer material, to push the material over the crest of the pile.
- Always keep an eye out for cracks, slumping on the slope, or bulging at the toe. These are signs that the slope may be unstable. If you see any of them, warn other workers immediately.
- Barriers and berms must never be moved or altered.
- When using a loader or bulldozer, always approach the crest at a right angle (90 degrees) to the edge to keep the weight of the equipment away from the edge.

**Demonstrate**

- Review the site plan.
- Point out any stockpiles.
- Ask what the maximum height is for each stockpile.
- Ask loader operators to explain how they will excavate material from each stockpile.
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On the cover...
Young workers need to know the ins and outs of traffic protection on worksites this summer. Are you prepared to train them?

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Throughout the Ontario utility and construction sectors, falling objects are a high-risk area due to the nature of working at height. That’s the case at Ontario Power Generation (OPG), where falling objects can be a hazard because the multi-storey generating plants often require employees to work or move equipment at height.

OPG continually assesses its safety risks and creates focused plans for managing and reducing them. At the top of the list in the past year has been a plan to improve their program for preventing falling objects.

“The focus of this improvement was not to have more procedures. Instead, it was to capitalize on the lessons we’ve learned from previous incidents and to engage employees to put existing programs into action,” says OPG’s Director of Corporate Safety, Mary Lou Sinclair. While comprehensive programs for preventing falling objects have been in effect for some time at OPG, senior leaders recognized that some change was needed to reduce this risk.

OPG offers some lessons that may help other employers in the utility and construction sectors tackle this issue in their workplaces.

Get a firm commitment from senior leadership
Commitment from senior leadership is a major impetus for any improvement initiative. In 2011, OPG’s balanced scorecard placed falling-object prevention alongside the company’s production and financial goals. This prompted improvement plans to be drawn up throughout the company, and progress was monitored and reported up the line. Senior leaders communicated clear expectations to employees on this priority area at every opportunity, including at face-to-face meetings, by video messaging, in e-mails, and in newsletters.

Identify risk areas for falling objects
OPG’s records of incident trends showed them that falling objects can be a hazard in a wide variety of situations, each requiring a unique control strategy. Has your company considered falling-object hazards in all of the following situations?

- Inadequate control of equipment and tools being used, stored, or moved at height (e.g., on scaffolding, work platforms, hoisting equipment, or storage racks, or of material being moved on carts)
- Loose or defective equipment and building structures (e.g., bricks, concrete, cladding, or plant
overhead equipment) that are located at height
• effects of weather, such as a buildup of ice or snow, structures made loose by wind, or overhead rock erosion.

Use past experience to identify key areas for improvement
Given the broad scope of falling-object hazards, you have to base the priorities in your improvement strategy on your own work environment and incident experience. At OPG, a close look at past experience showed where controls would yield maximum results.

Maintenance outages. Special attention is needed to prevent falling objects during these periods of intense work activity when multiple activities are taking place in a small area and at different heights. Pre-job planning is the key to ensuring that barriers to falling objects are in place.

Material handling. Using a cart is an effective way of transporting heavy materials, but plan carefully to prevent anything from falling off. Consider the load, the cart, and the route you will be travelling.

Equipment and building structures.
In addition to having inspection and maintenance programs, let it be known that all employees are expected to report any damaged or loose equipment or structures (e.g., cladding, roof flashing, bricks, spilled concrete, ice, snow, or loose rocks).

Engage the JHSC in the improvement plan
Joint Health and Safety Committees (JHSCs) can play an important role by identifying falling-object hazards during their workplace inspections. OPG’s management and unions created a falling-object inspection checklist for JHSC members to use regularly.

Consider falling-object prevention in your pre-job plan
• Controls such as tethers, tool belts, exclusion areas, overhead protection, and containment sheeting can prevent tools from falling and will protect people below.

• Storage of materials in temporary laydown areas at height must be managed to prevent anything from falling. Ensure that the responsibility for these areas is clear and that there are signs or barriers, and daily inspections.

• Housekeeping and continual inspections must be part of the job plan, both during the work and after it is finished. Check dark corners, ledges, and the tops of cabinets for leftover materials that could fall later.

Load-movement checklist
• The load. Know the weight and centre of gravity. Distribute the load evenly, keep it as low as possible, and use tie-down straps.

• The cart. Know the load rating and whether sides are needed.

• The route. Walk the route, looking for open guardrails, stairwells, obstructions, and irregularities in the floor.

Managing scaffold risks—Try this grab-and-twist technique
When scaffolds are being built, there is a constant danger that something may fall. The risk increases when one worker is passing a scaffold tube to another. Here’s a way of reducing that risk.

1. Worker #1 picks up scaffold tube and gets a good grip on it.
2. Worker #1 passes tube to Worker #2 while keeping a good grip.
3. Worker #2 takes tube and gives it a twist to ensure a firm grip.
4. Worker #1 notes Worker #2’s tube twist and lets go of tube.
Rick Ponting can’t remember the day of the accident. In fact, he now has trouble even remembering simple instructions.

In June 2009, the Simcoe, Ontario, roofer fell off a roof and injured his neck, shoulder, and, most importantly, his brain. Since that accident, Rick has struggled with depression and memory problems. He would like nothing more than to return to work, but with his type of injury, that isn’t an option at this time. However, he hopes other workers who hear about his experience will learn from it.

At the time of his accident, Rick had more than eight years of experience in the roofing trade. He enjoyed his work and spent much of his time on the job. One day while he was working on a building in his community, he was perched on top of a scaffold when one of the metal ends popped out of place and the scaffold collapsed.

“And I went with it. That’s what they told me,” says Rick.

He wasn’t wearing any type of fall protection. He had
never had any of the training that is required by the Occupational Health and Safety Act for people working at heights, and he had never been made to tie off.

“Nobody ever tied off,” he says.

The only thing Rick remembers about that day is waking up in hospital.

Because of his brain injury, Rick required a kind of surgery called a decompressive craniectomy. His brain was swelling due to the injury. To allow his brain to expand without being damaged further by pressing against his skull, the surgeon temporarily removed a bone flap—in effect, a piece of his skull. It wasn’t until six months later, when there was no more danger of swelling and bleeding, that the piece of bone was replaced.

Rick’s wife, Mandy Waite, remembers his time in the hospital. She says his weight was down to 90 pounds, he had no appetite, and he was listless and depressed. Sometimes he didn’t recognize her and mistook her for a nurse.

Even after he went home, Rick continued to have trouble. “It was a tough time” Mandy says. “He had poor balance and was constantly sleeping.”

Rick also suffered a setback when too much seizure medication in his system caused him to trip and fall again. It’s been a process of trial and error with the medication.

Since his accident, Rick has been working with a team from the Acquired Brain Injury Community Services Department of Hamilton Health Sciences. The team works with him to ensure he receives what he needs, including physiotherapy, speech-language pathology, occupational therapy, and time with his family doctor.

“They are awesome,” he says.

Rehabilitation Therapist Christine Brum has helped Rick work out the sequence of events that began with his accident and put him in hospital.

“He has good days and bad,” she says. “We work with him in order to help him regain some independence.”

Rick feels remorseful for how this has affected his family, including his two daughters, aged 5 and 14. “I feel sorry for them. I am not myself,” he says.

His youngest daughter is always cautious now and she asks her father to be careful and not to fall anymore.

“They’ve both had to grow up,” he says.

Mandy says things have changed in their lives in a million tiny ways. Rick walks in his sleep. He can’t remember simple instructions, and sometimes he has to keep a list to remind himself of what he’s doing.

He uses a day planner and has to write everything down so he won’t forget anything. He also has trouble remembering where he put things.

“I just go day by day,” he says.

Though Rick is working hard to improve his condition, he hopes other workers can avoid the struggle he now lives with by learning what safety features are available to them. In order to prepare for the interview, he worked with Christine to make a list of important things he felt other workers should remember when they go to work. His list includes

- taking safety training
- tying off when it is required
- making sure the worksite is kept tidy and clear of things that a worker could trip over.

Unfortunately, falls such as Rick’s are only too common. Though there has been some improvement, falls from height continue to plague Ontario construction sites. In January (the most recent month for which a report is available), there was one fatality—a worker fell off a ladder while he was replacing an eavestrough on a barn.

The Ministry of Labour knows of seven critical injuries in January, and four of them were falls. This is often the case in many of IHSA’s member sectors.

Rick hopes other workers won’t take their lives for granted. More than anything, he would like to be able to go back to a job similar to what he was doing before his fall. But that’s unlikely. Right now his job is to improve his physical and mental condition as much as he can. With the help of his team and his family, he is working hard to make the most of his life.
If a driver works for a full calendar year (January 1 to December 31) without a motor vehicle incident (MVI), he or she is eligible for the Safe Driver Award. In the case of school bus drivers, the year goes from July 1 to June 30 to reflect their schedule.

For the first year, drivers must have been full-time employees for at least 75 per cent of the year unless they have had an authorized company leave of absence, a layoff, or an illness or injury that prevented them from working.

Safe Worker Award Program

While health and safety should be a standard part of everyone’s work—whether they’re an employee, supervisor, or employer—it is also important to recognize those who have gone above and beyond their regular duties to ensure a safe workplace.

That’s why IHSA has maintained and enhanced several award programs inherited from its three legacy associations. At IHSA, we want to pause and reflect on achievements in safety while pursuing new and innovative ways to make our workplaces free of harm. We have a number of programs that may suit your firm’s needs.

Safe Driver Award Program

The Safe Driver Award Program is intended for employers who wish to recognize the health and safety performance of their employees. This award, formerly offered by the Transportation Health and Safety Association of Ontario (THSAO), helps your firm demonstrate the importance of working safely and shows the company’s appreciation for a job well done. It also acts as a document of the employee’s—and in turn, the company’s—safety history; this demonstrates to customers and other companies the quality of service you provide.

If an employee works for a full calendar year (January 1 to December 31) without a compensable incident, he or she is eligible for the Safe Worker Award. In the case of school bus drivers, the year goes from July 1 to June 30 to reflect their schedule.

For the first year, employees for at least 75 per cent of the year unless they have had an authorized company leave of absence, a layoff, or an illness or injury that prevented them from working.

Safe Worker Award Program

The Safe Worker Award Program, which is similar to the Safe Driver Award, allows employers to recognize their employees’ health and safety performance.

While a safe workplace is the best reward for working safely, honouring an employee’s health and safety endeavours acknowledges an employee’s service and recognizes his or her achievement.

If an employee works for a full calendar year (January 1 to December 31) without a compensable incident, he or she is eligible for the Safe Worker Award.
For the first year, workers must have been full-time employees for at least 75 per cent of the year unless they have had an authorized company leave of absence, a layoff, or an illness or injury that prevented them from working.

**Phinnemore Award**
The Roy A. Phinnemore Award is named in honour of a past Construction Safety Association of Ontario (CSAO) executive director whose dedication to construction safety inspired others during CSAO’s formative years. Established through a donation made by Oliver Gaffney and matched by the Phinnemore family, the award is presented each year to a person who has made significant contributions to health and safety.

**Gil Samson Award**
The Gil Samson Award, first presented in 1988, is named after a former CSAO general manager who played a major role in creating the network of labour-management health and safety committees. The award recognizes the extraordinary achievements of a labour-management committee. A substantial donation from CSAO’s former President Don Gaffney helped make this award possible.

**Beck Award**
The John M. Beck Award is named after the chair and chief executive officer of Aecon Group Inc. Sponsored by Aecon, the award is presented annually to a project-based joint health and safety committee (JHSC) in Ontario construction. It recognizes extraordinary leadership, initiative, creativity, and innovation in addressing health and safety.

**President’s Award**
Part of the Electrical & Utilities Safety Association’s (E&USA) safety-recognition efforts, this award looks at the safety efforts of an entire company over time. Firms are recognized for hours worked without a lost-time injury; the award is based on increments of 250,000 hours.

To apply for the President’s Award, firms must submit their hours worked without a lost-time injury each time they achieve a milestone (250,000 hours, 500,000 hours, and so on).

Once the hours and LTIs are confirmed with the WSIB, the firm receives a congratulatory letter from the President and CEO and is presented with a plaque detailing the achievement.

Each of these awards marks a milestone in a company’s health and safety journey.

**To learn more about our awards, visit the IHSA website at** [ihsa.ca](http://ihsa.ca) **and click on the “Awards” section.**
The Ministry of Labour (MOL) has announced the upcoming schedule of inspection blitzes or periods of heightened enforcement. These extra inspections allow MOL inspectors to focus on some of the most common root causes of hazards in those sectors facing the highest number of injuries.

The MOL has undertaken these inspections as part of the Safe at Work Ontario strategy, which places greater focus on companies that have higher injury rates, or that have a higher risk of incidents due to their industry, size of business, and other factors.

In 2011, the MOL conducted over 12 inspection blitzes, and many of them covered sectors in which IHSA member firms work. During these inspections, 23,386 orders were issued, including 1,116 stop work orders.

Over the course of these blitzes, IHSA will help provide prevention tools and resources such as articles in our Health & Safety Magazine, in 2-Minute News, and at ihsa.ca. Watch for more details in upcoming issues of these publications or in special blitz features on the website.

Ministry of Labour releases 2012-2013 inspection blitz schedule

**Construction/ Aggregates**

**May – August 2012**
New and Young Workers

**June 2012**
Struck by Objects
(Hazards associated with traffic control during roadwork)

**July – August 2012**
Tower Cranes / Mobile Cranes
(Hoisting hazards)

**July 2012**
Pits and Quarries, Sand and Gravel Pits
(Hazards associated with the haulage process)

**September – October 2012**
Supervisory Engagement in Construction
(Supervisory responsibilities / training and requirements under Section 14 of Reg. 213/91)

**February – March 2013**
Slips, Trips and Falls
(Ladder safety and fall protection hazards)

**Industrial**

**May – August 2012**
New and Young Workers

**October – November 2012**
Machine guarding, MSDs, workplace violence (Manufacturing)

**February – March 2013**
Slips, Trips and Falls
(Ladder safety and fall protection hazards)
You know that the noise levels in your workplace are excessive. You’ve looked into the problem but realize that controlling noise at the source is not a practical solution. So you buy earplugs and hand them out to workers. Your job is done...right?

Wrong. Hearing-protection devices (HPDs) such as earplugs and earmuffs can be effective if used properly, but all too often they’re not. The selection, use, and care of hearing protection is not as easy as many people think. If it’s not done right, workers will be overexposed to noise and will eventually experience noise-induced hearing loss (NIHL).

Noise-induced hearing loss is one of the fastest-growing occupational diseases in Ontario. The biggest problem is that by the time workers realize they’re losing their hearing, it’s too late—the damage is permanent and irreversible.

Exposure to noise may sometimes be unavoidable, but hearing loss is 100 per cent preventable. Use the tips in this pull-out to help ensure that hearing protection devices are used properly at your workplace. On page four, you’ll find helpful illustrations that show you how to fit earplugs and earmuffs. Post this pull-out somewhere where workers can see it or present it as a safety talk.
Workers need to know when hearing protection is required.

Find answers to the following questions:
• How noisy is the workplace?
• Is it noisy all the time or only when certain tools or equipment are used?
• Which workers are exposed to noise? For how long?

Without knowing the answers, you might choose the wrong type of hearing protection, protect workers when they don’t need it, or worse, not protect workers when they need hearing protection.

Assess the noise level of the workplace to determine if or when hearing protection is required.

Assessing noise levels is not necessarily an expensive or highly technical task. As a general rule, if you can’t hear someone talking two feet away from you, and that person needs to shout to be heard, hearing protection is required. An inexpensive sound level meter or noise indicator can be used to identify hazardous sound levels caused by certain tasks. Manufacturer or industry data can help you find out how much noise is made by specific tools and equipment.

Post warning signs in noisy areas to alert workers that hearing protection is needed.

You don’t need to be exposed to loud noise all day long and every day to risk hearing loss. Exposure to very loud noise for even relatively short periods repeatedly and regularly over time can result in permanent hearing loss. In addition to posting signs, you can attach warning labels to loud tools or equipment.

Employers and workers need to choose the right kind of hearing protection.

To find the most effective type of hearing protection, you will need a thorough understanding of the noise characteristics of your workplace (i.e., when and where noise occurs, how long it lasts, etc.).

Choose an HPD that does not interfere with important communication.

Workers still need to hear important sounds such as alarms or other warning devices, approaching vehicles, etc. Modern HPDs can allow certain warning sounds through while blocking other hazardous noises. Reassure workers that wearing HPDs will not prevent them from hearing other important sounds.

Choose an HPD that feels comfortable.

A properly fitted (deeply inserted) earplug may feel uncomfortable at first. But after a few uses, workers should start to become used to it. Most suppliers offer a wide variety of HPDs, so involve workers in the selection process by letting them try on different types and styles before you buy them. Purchase at least three or four different models (two or three ear plugs and at least one earmuff).
Workers need to learn how to use hearing protection properly.

Hearing protection only works when it’s used correctly. Wearing HPDs that do not fit properly can give workers a false sense of security—they believe that they’re protected when they’re not.

**Provide brief one-on-one training to workers on the proper use of HPDs.**

Workplaces that provide audiometric testing (i.e., hearing tests) can use this opportunity to review the proper techniques for inserting, inspecting, and caring for HPDs with workers. Refer to the illustrations on the next page, or visit IHSA’s e-Learning web page to view online presentations on *Basics of Hearing Protection and Basics of Noise*. You can also download the “Hearing protection” chapter in IHSA’s *Construction Health and Safety Manual* (M029).

**Always follow the manufacturer’s instructions for the proper use of HPDs.**

Consult the manufacturer’s guide. Instructions can vary significantly depending on the manufacturer or the type of device (e.g., foam vs. pre-moulded earplugs).

**Employers must enforce hearing protection at the workplace.**

Once you have trained your workers in hearing protection and given them HPDs, you must make sure that they follow the correct procedures.

**TIP**

**Make sure that workers wear hearing protection at all times, when required.**

A hearing protector that is not used when needed is useless. For example, if an earplug is only used 80 per cent of the time that it should be used, it will provide only seven decibels of protection. Compare that to the 33 decibels of protection that the earplug provides if it’s used 100 per cent of the time it’s needed. (See table.)

**TIP**

**Give frequent safety talks to remind workers when hearing protection is needed.**

Five-minute safety talks are a convenient and effective way to reinforce health and safety on the job. Refer to IHSA’s *Safety Talks Manual* (V005) for one on hearing protection.

**Workers need to know how to inspect and maintain HPDs properly.**

Just like any other type of personal protective equipment, HPDs do not last forever. To make sure they’re working properly, HPDs must be inspected and maintained.

**Always consult the manufacturer’s instructions on proper inspection and maintenance procedures.**

Inspection and maintenance procedures for HPDs can vary significantly depending on the type or manufacturer. For instance,

- earmuff cushions must be inspected for cracks and tears and must be replaced periodically, since the cushions can lose their flexibility
- foam earplugs should be replaced when they get dirty, but reusable earplugs can be washed with mild soap and warm water.

Hearing-protection devices are an important piece of personal protective equipment. If workers are not protected, loud noise can steal their hearing.

<table>
<thead>
<tr>
<th>Length of time worn (%)</th>
<th>Maximum protection (dB)</th>
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<tbody>
<tr>
<td>30</td>
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<td>20.0</td>
</tr>
<tr>
<td>100</td>
<td>33.0</td>
</tr>
</tbody>
</table>

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*Table: Maximum protection (dB) based on the length of time worn (%) of hearing protection.*
Before each use, inspect your earmuffs for damage and ensure that the muff pads have good elasticity.

Compress the muffs' arms so that the muffs fit snugly against your head.

These earmuffs fit well. There's a tight seal between the earmuffs and the head, all the way around the muffs.

These earmuffs don't fit well. Notice that part of the ear is showing. That means the seal isn't good. Adjust the muffs.

Earplugs and earmuffs won't protect you if you don’t wear them properly.

First, wash your hands. Then roll—don’t just squeeze—the earplugs between your thumb and two fingers.

Reach your other hand behind your head and pull your ear up. This straightens the ear canal so the plug can go in deeply.

Insert the plug deeply into the straightened ear canal.

If you insert the plug properly, you shouldn’t see very much of the plug outside the ear.

Fitting your earplugs and earmuffs

Earplugs and earmuffs won’t protect you if you don’t wear them properly.
IHSA can help your fleet navigate the MTO facility audit

CVOR system
You’ve just found out that your company’s vehicles are on the Commercial Vehicle Operator’s Registration (CVOR) radar at the Ministry of Transportation (MTO). You thought all you needed was your CVOR certificate, but now there are questions about driver qualifications, hours of service, vehicle maintenance, and any collisions or traffic violations. You may also have been told you are going to have an MTO facility audit.

A CVOR certificate is similar to a driver’s licence, but it is for a fleet or company. It is also used to monitor the safety performance of the fleet or company. Under the CVOR system, operators of commercial vehicles are required to maintain certain driver and vehicle records for a specified length of time. Since the facility audit is an enforcement audit, you must make those records available to an MTO enforcement officer when requested.

The CVOR system applies to many different types of vehicles. Whether it applies in a particular case often depends on the weight of the vehicle. The following vehicles may be included:
- buses
- tractor trailers
- service trucks
- delivery trucks
- utility vehicles
- some pickup trucks with trailers (such as a landscaper’s truck hauling a small excavator or lawn equipment).

If your company has a poor CVOR record, the MTO may send you a letter of warning, you may have to have a facility audit, or you may have your CVOR certificate cancelled altogether.

The best way to avoid that kind of trouble and be prepared for an audit is to call on the consultants at IHSA, who can help your firm through the process.

Help from IHSA
IHSA’s Pre-MTO Facility Audit can help your firm improve its status with the MTO before or after an MTO facility audit. In this program, a qualified IHSA auditor will examine your firm’s transportation systems and diagnose any problems where improvements can be made. After that first phase is complete, the auditor will provide written recommendations on how to improve your firm’s procedures and practices.

Then the auditor will meet in person with your firm’s representatives to discuss the recommendations and work with you to develop a plan for putting them into effect. Together you’ll create a tailor-made system that includes the correct documentation, potential training opportunities for employees, and other measures that can help your company move from an “unsatisfactory” status with the MTO to “excellent.”

IHSA’s Marc Girard conducts sessions with firms when they are in need of assistance. “Companies call us for a number of reasons. They know they’re about to get a facility audit and they ask IHSA for help. Other times, they call after an audit and they’ve had their status downgraded and they want to make improvements,” he says. “Or they simply want to improve their score.”

For information on IHSA’s Pre-MTO Facility Audit, visit www.ihsa.ca and click on “auditing.”

IHSA can help your fleet navigate the MTO facility audit
Many of us are aware of a medical imaging procedure known as CT scanning (which stands for computed tomography). This procedure has been suggested in the occupational health setting as a possible tool to screen for mesothelioma and lung cancer in the hope of early diagnosis and possibly improved outcomes.

More frequently, patients get sent for these procedures as part of the diagnosis of medical conditions—which is different than screening. CT scans (e.g., scans of the brain, abdomen, lung, or heart) are ordered because they provide more detail than x-rays. In addition to the (possible) benefits that patients have experienced from such medical imaging, attention has recently been paid to the increasing frequency of physicians’ ordering these scans and the burden of ionizing radiation associated with repeated tests. This article is meant to raise awareness about the risks from these medical procedures, regardless of whether scans are ordered in a workplace screening setting or by a personal physician for diagnosis.

How does the radiation exposure from a CT scan compare to a chest x-ray?
A diagnostic CT chest scan procedure delivers about 70 times the radiation dose received from a regular chest x-ray, which delivers about 0.1 mSv or approximately 7 mSv.

What is the extent of exposures and what are the possible risks that might be associated with repeated procedures?
Often these CT procedures may be repeated periodically. Recently published articles have addressed this. In 2010, a study in the *Journal of the American Medical Association* looked at heart patients undergoing myocardial perfusion imaging (MPI), a very common CT procedure (9.3 million procedures were performed in the U.S. in 2002). They showed that about one-third of the patients received cumulative doses from all medical sources of more than 100 mSv; to put this in perspective, this is double the occupational radiation dose of 50 mSv allowed in a year. The authors concluded that repeated testing was common and in many patients was associated with high total doses of radiation.

An editorial written about this study estimated that the use of CT may be associated with 1.5% to 2% of all cancers in the U.S. in the future, and there is evidence that too many imaging exams are being performed. The estimated risk of cancer due to exposure from a typical abdominal CT scan is approximately 1 in 300 to 1 in 2,000—depending on dose, age, sex, and body
that physicians generally underestimate the amount of radiation doses and their associated effects, and underestimate the risk to patients who have had the imaging procedures. Physicians—and their patients—need to weigh the potential benefits against the potential harm when ordering or recommending a procedure that involves ionizing radiation. It is important to keep in mind that a substantial number of patients may undergo multiple procedures in a short period of time. Multiple procedures in an individual can result in total exposure that approaches or exceeds the range where there is evidence of an increased risk of cancer (cumulative doses above 50 mSv).

It is important that workers—and their physicians—be made aware of these issues. When considering undergoing a CT scan, whether for workplace screening related to workplace exposure or for diagnosis, workers should discuss the possible benefits and risks of the procedure with their physician.

What initiatives are underway in this regard?
The Canadian Association of Radiologists and other international organizations are undertaking efforts to produce guidelines to help medical practitioners decide whether a CT scan would be the most appropriate tool, and have proposed patient dose tracking initiatives—a system for tracking a patient’s medical exposure history and related radiation doses.

Acknowledgement: Suggestions by Lothar Doehler, Evelyn Stefov, Dr. Lillian Wong, and Dr. Leon Genesove of the MOL are appreciated.
Summer is here and you may be considering hiring some young workers over the next few months. Do you have an orientation program for young workers to make sure they are ready for the work ahead? Choosing not to give special training and orientation to young workers can be an expensive decision for a company.

The Workplace Safety and Insurance Board (WSIB) defines young workers as workers who are less than 25 years of age, as well as students in summer jobs and co-op placements.

According to the WSIB’s 2006 Young Workers Report, between 2001 and 2005 in Ontario, there were 69,000 lost-time claims among young workers. Of those claimants, 70 per cent were between the ages of 20 and 24. The remaining 30 per cent were between 15 and 19. There were 52 workplace fatalities.

Like any workers, young workers have the right to know about workplace health and safety hazards, the right to participate in dealing with health and safety issues, and the right to refuse work if they feel it will endanger them. They also have the responsibility to comply with all relevant legislation, wear their personal protective equipment if it is required, report hazards they find, and not create additional hazards.

Many studies suggest that young workers— and new workers in general—are most at risk in the early days of a new job. All workers are at greater risk of getting hurt in their first year with a new employer, but those aged 15 to 24 are in particular danger.

To reduce the risk of injury for your young employees— whether they are full-time or summer-student workers— here are some things that can help keep them safe.

• Have a specific orientation routine that begins on the first day.
• During the interview, explain the job and show them the actual place they will be working. Make sure they are comfortable with it.
• Have them tour the jobsite to learn about emergency procedures and safety practices.
• Assign a mentor to the student. When choosing mentors, look for these qualities:
  o desire and ability to share their knowledge
  o thorough understanding of the workplace and the student’s work activities
  o loyalty to company protocols
  o patience
  o knowledge of standards and procedures
  o a strong belief in the internal responsibility system.

What employers should know

Hiring young workers:

- desire and ability to share their knowledge
- thorough understanding of the workplace and the student’s work activities
- loyalty to company protocols
- patience
- knowledge of standards and procedures
- a strong belief in the internal responsibility system.
It is important to make sure that young workers
• understand all relevant health and safety legislation, as well as workplace policies and procedures that apply to their job
• know what personal protective equipment to use, when to use it, and why it is important
• are informed about the hazards they may encounter on the job as well as the way to report these hazards to their supervisors
• are not afraid of reprisals if they express concern about safety and workload
• know that it is imperative to ask questions and never assume they know the answers.

Once you’ve considered all those things, you should look at creating or refining your young-worker orientation program. A proper orientation is well worth the investment in time and resources. It should begin on the worker’s first day and cover all the basic elements.

• Young workers must be made aware of all relevant legislation that applies to the work they will do. This includes the Occupational Health and Safety Act for provincially regulated companies, the Canada Labour Code Part II for federal companies, and the basic rights of the worker. Explain their responsibilities under the Act and encourage them to report unsafe conditions and equipment.
• If the workplace has a joint health and safety committee or representative, young workers must be told who these people are and what role they play in the internal responsibility system. Give young workers the company’s health and safety policy.

Traffic control and young workers

At many construction and utility contracting firms, young workers are often chosen for traffic-control jobs in the summer. Doing traffic control on a jobsite seems like a perfect summer job for a high school, college, or university student. They get to be outside all day, work in a busy, active environment, and learn about the construction industry.

The problem is that people sometimes underestimate how much training and orientation a traffic-control person needs. There’s a lot more to it than simply holding a stop-and-go sign.

If you have young workers doing traffic control this summer, make sure to do the following as part of their training:
• Explain the plan for traffic protection and control for the jobsite to everyone, including traffic-control people. Point out the pathways for pedestrians, for equipment, and for vehicle traffic.
• Point out all equipment operators’ blind spots.
• Establish escape routes for traffic-control people, especially if the jobsite is near a highway or other busy road.
• Explain to the traffic-control people how the traffic-control plan may be modified if road conditions change because of the weather.
• Make sure the traffic-control people wear the right personal protective equipment: a class E, type 1 or 2 hard hat; CSA-certified, grade-1 safety boots; and a high-visibility safety vest that complies with the regulations and meets the CSA standard for a Class-2 garment.
• Explain the difference between a traffic-control person and a signaller. Traffic-control people should not perform the duties of signallers unless they are trained to do so.

Young workers must be told about the hazards in their work environment. This may include information on WHMIS, specific machinery, and confined spaces; driver training; or other detailed information needed for their job.

Young workers will need to know what personal protective equipment to wear. They may also have to be encouraged to wear it. Their fellow employees should act as examples.

All young workers should be given training on the equipment and tools they may be asked to use. Equipment operation and other complex tasks will require much more comprehensive training. This will include explanations of the operator’s manuals and maintenance schedules, hands-on training, and specific rules for each piece of equipment.

Train young workers in emergency procedures. Describe evacuation requirements, meeting areas, mayday procedures, and any other emergency processes. Teach them about first aid procedures, and tell them who can help them if they are injured.

It is important to include a broad orientation on procedures and facilities as well as a department-specific training element that delves deeper into the exact nature of the work. Afterwards, evaluate the effectiveness of your orientation program.

Though generic templates and examples are a good place to start, every workplace has different hazards and different safety procedures. So your orientation program should be designed for your own company and the information should be tailored to each department.
Everyone on a worksite should be trained in—and follow—safe procedures for maintaining good hygiene. Under the Act, workers must also have access to the following facilities:

Toilets
- water-flush toilets that are connected to a sanitary sewer, or chemical flush toilets
- a specified minimum number of toilets—including separate facilities for female workers unless the facilities are intended to be used by only one person at a time
- a specified minimum number of urinals.

Clean-up facilities
- clean-up facilities equipped with no fewer wash basins than half the number of toilets; hot and cold running water where reasonably possible; and either paper towels and waste receptacles or a hand dryer
- a hand cleanser that can be used without water and paper towels or a hand dryer if it is not possible to provide running water.

Employers, owners, constructors, suppliers of equipment, and supervisors can all help to ensure that workers have access to toilets and clean-up facilities. Under the Occupational Health and Safety Act, they must maintain a clean worksite and make sure that facilities are available for workers to clean themselves if they have been exposed to any infectious diseases.

One of the Ministry of Labour’s (MOL) priorities this year is to tackle occupational health hazards that may lead both to occupational illness and to infectious diseases. Through its construction-sector plan for 2012, the MOL will continue to target sanitation on construction projects and its effects on the spread of infectious disease.

IHSA is helping spread awareness of this issue by conducting information sessions in association with the Ontario Association of Sewage Industry Services (OASIS).

On construction sites, workers are often exposed to infectious diseases because of unsanitary conditions in and around toilets and clean-up facilities.

Clean-up and toilet facilities are probably the last place you would think to look for workplace health hazards. But when you’re planning a job,
infectious diseases should actually be an important consideration.

When infectious diseases are acquired in a workplace from biological agents such as bacteria and viruses, they are considered occupational illnesses. The following are some of the hazardous agents that workers can be exposed to on a worksite due to poor sanitary conditions.

- Bacteria such as Salmonella, Escherichia coli (E. coli), and Listeria
- Viruses, including rotavirus and norovirus, the hepatitis A virus, and poliovirus
- Parasites such as Cryptosporidium, Echinococcus (tapeworm), and Giardia
- Ascaris (roundworm)

A well-maintained hand-washing facility not only helps eliminate infectious diseases, but also can keep workers safe from some of the toxic dusts and chemicals often found on construction sites. Hand washing helps remove toxic materials from the skin, thereby preventing workers from developing skin reactions and ingesting hazardous chemicals.

Workers should remember to wash their hands after using the toilet; before eating, drinking, handling food, or smoking; after coughing or blowing their nose; and after contact with chemical agents.

Even if hand sanitizer is provided on a construction project, soap and water also need to be available to remove dirt, grease, and any hazardous chemicals.

In order to help spread the word on combatting these health hazards, IHSA is working with both the MOL and OASIS.

IHSA hosted free awareness seminars last fall and this spring so that companies in the construction sector could learn more about the requirements for sanitation facilities. Additional seminars may be held in the summer. For more details, visit www.ihsa.ca and click on News & Events at the top of the page. Or contact your IHSA consultant to indicate your interest in arranging a seminar in your area.
Drivers need to know they have a role to play during an inspection. Drivers should not feel the inspector is their adversary, but rather they are a team working together to ensure vehicles are travelling safely on our roads.

Drivers should do the following.
• Ask questions during an inspection so they know exactly where they stand.
• Answer all questions openly and honestly.
• Handle themselves calmly if a conflict should arise.

As well as detecting unsafe vehicles and drivers, Roadcheck provides an opportunity to educate the motor carrier industry and the public about the importance of safety in large vehicles.

In preparation for this type of inspection, drivers should have the following items with them.
• A current and valid driver’s licence
• Medical examiner’s certificate
• Driver’s record of duty status
• Proof of pre–trip inspection
• Proof of insurance

Drivers should be knowledgeable about the condition of their vehicles. By conducting their own regular checks they can be aware of any potential issues and deal with them before they become a problem. Circle checks and pre–, during–, and post–trip reviews are a helpful way to ensure vehicles are always well maintained.

These checks can include the following.

**All vehicles**

- Engine compartment
  - fluids
  - drive belts, hoses
- Driving compartment (in-cab)
  - controls
- Emergency equipment (if applicable)
- Outside checks
  - bumpers
  - lighting equipment
  - tailgate, doors, mirrors, load
  - safety sticker
  - licence plates
  - fuel tank
  - exhaust system
- Combination vehicles
  - fifth wheel/coupling device
  - air lines, glad hands, and electrical cord

**Buses**

- interior lights
- seats and handrails
- wheelchair restraints (if applicable)
- emergency exits (if applicable)
- service door(s)
- auxiliary heaters (if applicable)
- wheelchair lift or kneeling feature (if applicable)

By conducting regular inspections and safety meetings, and performing routine maintenance, drivers can ensure their vehicles will “motor” through this year’s Roadcheck inspections safely and efficiently.
Getting a job done fast is important. But what if your actions prevented you from doing what you love most?

Small changes in your daily routine (like keeping heavy loads below shoulder height) could help ensure you don’t sustain injuries on the job. Make those changes today, for tomorrow. For more information, contact your ergonomic change team or IHSA, or visit ihsa.ca

How would an MSD affect your life?
Visit IHSA.ca today!

The Infrastructure Health & Safety Association’s new website provides quick and easy access to news, information, products, and services—many of which are free to use. Find what you are looking for in three clicks or less!

Visit IHSA.ca today and find out how our online resources can help you.

IHSA introduces the COR™ Program for Ontario contractors

IHSA is proud to present to its membership the Certificate of Recognition program (COR™) for Ontario.

COR™ is a nationally recognized health and safety certification program. It provides employers with an effective health and safety management system to eliminate workplace incidents, injuries, and illnesses. It is currently being used across Canada and is supported by the Canadian Federation of Construction Safety Associations. In many provinces and territories, COR™ is a pre-qualification requirement for contractors working in and out of the province in public- and private-sector projects.

To register for the program or find more information, visit ihsa.ca