Feasures

- Reducing Powerline Contacts
- The Cost of an Injury
- Don’t Jump Down
- COR™ and First Student
- Safety Culture
- Reducing Collisions by New Operators
- Pull-out Posters
- **Special Section on Falls**
  (see back cover)
Over a five-year period, slips and falls were the cause of nearly 50 per cent of all critical injuries in the trucking industry.

**Explain dangers**
Pay special attention when working on the following surfaces:
- ramps and gang planks without skid- or slip-resistant surfaces
- metal surfaces such as dock boards and dock plates, platforms, construction plates or covers on sidewalks, and roads
- metal rungs, steps, footholds, treads, running boards, and platforms on equipment and ladders.

**Remember:** metal is more slippery than many other materials due to its lower force of friction and traction. Metal surfaces such as running boards can become smooth and slippery with wear and extremely slick when wet, muddy, oily, dirty, or greasy.

**Identify controls**
When working around flatbed trucks:
- Clean footwear of mud, snow, ice, grease, or other slippery substances.
- Make sure running boards, treads, steps, footholds, and platforms are clean and dry.
- Always face equipment when mounting and dismounting.
- Have a secure grip on the handhold before stepping up.
- Place your foot firmly on the step or foothold so that it’s in front of your heel, under the arc of your foot.
- Always be aware of your surroundings and any obstacles around you.
- Don’t climb down with something in your free hand. Put it on the floor of the vehicle and reach for it when you get down to the ground.

When mounting and dismounting:
- Maintain three-point contact while getting onto or off of the equipment until you reach the ground, cab, or a stable platform. Three-point contact means that one hand and two feet or two hands and one foot must be on the equipment at all times.

- Do not jump down when dismounting or getting off the bed of a truck or other part of the equipment. Step down carefully while facing the equipment.

**The single biggest cause of falls from a vehicle is driver error and failure to follow the three-point rule.**

Simple things you can do to prevent slips and trips:
- Wear shoes with good support—not sandals, bare feet or high heels.
- Exit and enter facing the cab.
- Slow down and use extra caution in bad weather.
- Get a firm grip on rails and handles with your hands.
- Look for obstacles on the ground before exiting.
- Don’t rush to climb out after a long run. Descend slowly to avoid pulling a muscle.
- Don’t ever jump out. You may land off balance or on an uneven surface and fall.
- Don’t use tires or wheel hubs as a step surface.
- Don’t use unauthorized handholds such as door frames or door edges.

**Demonstrate**
Demonstrate three-point contact to your workers by properly mounting and dismounting a vehicle.
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On the cover...
Inadvertent contact with overhead powerlines continues to cause injuries and deaths in Ontario. IHSA is preparing a summer-long campaign to reduce these hazards.

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On busy construction sites with multiple trades and fast-moving heavy equipment, inadvertent powerline contact can be a major concern. According to the latest data released by the Electrical Safety Authority (ESA), contact with powerlines by non-electrical workers continues to cause many serious injuries and deaths in Ontario. That’s why IHSA is planning an Overhead Powerline Contact Awareness and Education campaign from July to September.

**ESA statistics**

The campaign will focus on inadvertent contacts with energized overhead powerlines on construction projects. ESA has provided a chart that shows how much bigger the problem of overhead powerline contacts is in the construction sector compared with other sectors (Chart 1).

Statistics show that 70 per cent of the critical injuries and fatalities from powerline contact occur on construction sites in residential and industrial areas, in parks, and on roadways. ESA investigators have found that the most common causes of powerline contacts were lack of awareness of powerline hazards and improper procedures. Victims and witnesses were caught totally by surprise when contact was made. Electrical hazards on construction and industrial sites must be treated with the proper respect and the correct procedures must be followed. Hazard assessments must be completed before work begins.

In the construction sector, the type of activity being done on the site when contact was made was a major factor. Lifting materials, excavation, hauling materials, roofing and exterior building work, and tree trimming continue to be some of the main situations where powerline events occurred (Chart 2).

Labourers, roofers, and truck drivers or equipment operators are the most common occupations where powerline contact injuries and fatalities occur. They account for almost 50 per cent of all powerline contact fatalities and serious injuries.

**Equipment operators**

For equipment operators, sections 181 to 195 of the construction regulations contain specific rules for working near powerlines and other electrical plant. When equipment can encroach on the permitted minimum distances from powerlines, the constructor must have written procedures to prevent that from happening. Copies of the procedures must be available to every employer on the project.

Section 188 of the construction regulations specifies how close workers and equipment may get to overhead powerlines (Table 1). The regulation also describes what action must be taken on a worksite if equipment or the worker operating it is likely to encroach on those distances.

**Table 1: Proximity to Energized Overhead Electrical Conductors**

<table>
<thead>
<tr>
<th>Nominal phase-to-phase voltage rating</th>
<th>Minimum distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 or more volts, but no more than 150,000 volts</td>
<td>3 metres</td>
</tr>
<tr>
<td>more than 150,000 volts, but no more than 250,000 volts</td>
<td>4.5 metres</td>
</tr>
<tr>
<td>more than 250,000 volts</td>
<td>6 metres</td>
</tr>
</tbody>
</table>

Source: O. Reg. 213/91, s.188
The employer must provide, and explain, the procedures to the equipment operator before the operator starts work. Other key steps include the following:

- Establish written measures and procedures and follow them.
- Make copies available to every employer on the project.
- Explain the written procedures to every worker involved.
- Give written notice of the electrical hazard to all operators.
- Give safety talks about powerline contacts.
- Designate a competent worker as a signaler.
- Post “DANGER” signs in hazardous areas.
- Post an electrical warning sign at the operator station(s).
- Post warning devices that are visible to operators near the hazard.

### Roofers
Like equipment operators, roofers often run the risk of making contact with an electrical service. Electrical services such as conduits or cables could be just below the membrane of the roof. They could also be mounted to the underside of the roof deck on the inside of the building. Roofers should take the following precautions:

- Ask the owner of the property where the conduit or cable is located.
- If possible, check the underside of the roof deck inside the building for conduits and cables in the spot where you plan to cut.
- If you are working on a concrete roof deck, x-ray the area before cutting.
- Always remove the membrane system before cutting holes in the roof deck.
- If an electrical service is located close to where you plan to cut, ask to have the power shut off and locked out.
- If the power cannot be shut off and locked out, ask to have a new location chosen for the hole.

Education is the most powerful tool for preventing powerline contact.
Ladders
When contact with powerlines results in serious injuries or deaths, the most common equipment being used is a ladder (Table 2). This happens when workers are moving the ladder from one work location to another.

Table 2: Occupational Powerline Contacts, 2002 to March 2013 (Q1)*

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Critical Injuries</th>
<th>Fatalities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Dump truck</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Crane</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>No equipment used</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Aerial work platform</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Pole</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Truck not specified</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

It’s important to set ladders up and take them down properly to ensure they don’t touch any overhead electrical wires. The following checklist offers a few helpful ideas on setting up a ladder safely:
- Before setting up a ladder, always check for overhead powerlines.
- Do not rest a ladder against flexible or movable surfaces.
- Set the ladder on a firm, level surface. On soft, non-compacted, or rough soil, use a mudsill.
- Maintain three-point contact when climbing up or down. That means two hands and one foot or two feet and one hand on the ladder at all times.
- Keep your centre of gravity between the side rails. Your belt buckle should never be outside the side rails.

Education
Education is the most powerful tool for preventing powerline contact. Educated workers know the right procedures, can assist their co-workers, and can help ensure that the worksite stays safe. Educated supervisors can maintain proper procedures and make sure everyone is following the rules. It’s important that everyone know their responsibilities and where the danger lies.

Although Ontario continues to make progress in reducing inadvertent electrical contacts, more can be done to protect workers from this hazard. Through proper procedures and training, workers will be more aware of the hazards and learn how to prevent them.

Visit our website and publications to learn more about our Overhead Powerline Contact Awareness and Education campaign. As part of the campaign, IHSA will distribute a hazard advisory on inadvertent contacts with energized overhead powerlines on construction projects. We also have many other products (e.g., posters and stickers) and information available at ihsa.ca

* ESA statistics for Chart 1 and Chart 2 represent known powerline contact incidents reported to ESA by electric Local Distribution Companies.
† Statistics were provided by the Ontario Ministry of Labour, the Ontario Coroner’s Office, and the Electrical Safety Authority, 2002 to March 2013 (Q1).
Can you afford the cost of an injury?

Most employers are aware of their health and safety costs, such as training and equipment. Some may even wonder about their return on investment of health and safety spending beyond the minimum legal requirements. One of the things many employers don’t think about is the cost they incur when an employee gets hurt.

The scenario below shows how even a relatively minor lost-time injury could end up costing thousands of dollars within just a few days.

The injury

A crew of eight workers and Mike, the supervisor, were bracing formwork for an upcoming concrete pour. Some workers had to carry wood from a stockpile to the forming area. The path to the forming area was cluttered with scrap wood and other construction debris.

In the morning, John, one of the more experienced workers, was carrying wood from the stockpile and tripped over some scrap. As he fell, his knee twisted and he hit the ground hard. Because he was carrying wood, he couldn’t break his fall. When John tried to get up, he found he couldn’t put any weight on his injured leg and his knee started to swell.

Mike, the supervisor, took John to the nearest hospital. By the time they arrived, John found it hard to bend his knee. He had to have an x-ray. The doctor recommended that John stay off his feet until a specialist could also review the x-ray.

Since John couldn’t return to work for several days, the employer had to replace him temporarily. When a worker can’t report for the next shift due to an injury sustained at work, it’s considered a lost-time injury.

The costs

We have estimated some of the immediate, direct costs of this injury based on an hourly rate of $55 for workers and $60 for supervisors. It doesn’t include any of the medium- or long-term costs associated with an injury, such as a WSIB surcharge, Ministry of Labour fine, production delays, or accommodation of the injured worker when he or she returns to work. Often these other costs are greater than the immediate ones we focus on here.

Estimate how much this type of injury—a relatively minor one—would cost you. Then, imagine if the injury was more serious, such as a worker falling off a roof or ladder, or being run over by a truck.

<table>
<thead>
<tr>
<th>Day of Injury</th>
<th>Hours</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker pay for rest of day</td>
<td>6</td>
<td>$330</td>
</tr>
<tr>
<td>Supervisor pay for taking worker to hospital</td>
<td>6</td>
<td>$360</td>
</tr>
<tr>
<td>Effect of the injury on other workers (productivity at 50% for rest of day; 7 workers @ 6 hours x 50% = 21 hours lost)</td>
<td>21</td>
<td>$1,155</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Days after Injury</th>
<th>Hours</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting replacement worker up to speed</td>
<td>8</td>
<td>$440</td>
</tr>
<tr>
<td>Productivity of other workers still lower (7 workers @ 8 hours x 66% = 19 hours lost)</td>
<td>19</td>
<td>$1,045</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management Costs</th>
<th>Hours</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area superintendent rearranging workforce to stay on schedule</td>
<td>4</td>
<td>$240</td>
</tr>
<tr>
<td>Supervisor and superintendent completing injury paperwork</td>
<td>4</td>
<td>$240</td>
</tr>
<tr>
<td>Hiring a replacement worker plus orientation and training</td>
<td>8</td>
<td>$440</td>
</tr>
</tbody>
</table>

**TOTAL**                                   |       | **$4,250** |

Preventing injuries

From a financial perspective, it is simply cheaper to prevent injuries from happening in the first place than to pay for them after they occur. Some simple and very inexpensive things could have prevented John’s injury.

- The employer could have scheduled a 10-minute housekeeping period at the end of each day, or as needed according to the supervisor.
- The supervisor could have explained to the workers that cleaning up is everyone’s responsibility and he expects all work areas and paths to be clear of scrap.
- Every week or so, the supervisor could have reminded workers about housekeeping during safety talks before starting work for the day.
- The employer could have made housekeeping a part of regular jobsite inspections.

Actions like these can have financial benefits beyond preventing a tripping injury. Most employees will tell you that a clean, organized workplace is a more productive workplace. So if you’re looking to cut costs, you can’t afford to skimp on safety.
Don't Jump Down

We've all done it. We've jumped down off trucks, tractors, trailers, and other types of vehicles and equipment instead of taking the time to properly climb down. Many workers jump to the ground because it's faster. But the faster way may not be the safer way.

When you jump down from the cab of a truck or the back of a trailer, you risk a slip, a fall, or a musculoskeletal injury. Your body has to absorb the impact of the landing. The higher up you jump from, the greater the impact of the landing on your body. Usually it's your lower back, knees, or ankles that suffer the damage. As anyone who has had one knows, these types of injuries are often life-long. They can continue to cause discomfort long after they've healed.

The impact force of jumping from the bottom step of a truck compared with jumping from the floor level or seat level can increase from 1 - 1.5 times your body weight to 5 - 7 times your body weight. The impact force will also increase if the landing area contains a hard surface or is in a tight space compared to if it contains soft soil, mats, or foams that allow the impact force to dissipate.

Spine and joint injuries
The high impact force of jumping down increases your risk of seriously injuring your lower back and lower limbs. The force of landing on the ground intensifies the shock or impact load on the spinal column, which can lead to increased bone-on-bone compression forces.

Research has shown that repetitive bone-on-bone impact is a direct cause of spinal disc degeneration and other soft-tissue back injuries. The force of landing can also cause a similar bone-on-bone effect in your joints, such as your knees and ankles.

The greater the impact force, the higher the bone-on-bone compression force
Seat Level – 7 or more times your body weight
Floor Level – 5 to 6 times your body weight
Bottom Step – 1 to 1.5 times your body weight

Slip and fall injuries
Another risk from jumping off a trailer or from a truck cab is a slip and fall injury after the landing. The higher the jump distance, the higher the landing force. In order to maintain balance and prevent a slip or a fall, the contact friction between your feet and the ground must be high upon landing. If the friction is low, a slip or a fall can occur.

The risk of a slip and fall injury can also increase if you land on a slippery surface such as ice, mud, or waste materials on the ground. Landing awkwardly on an uneven surface can lead to ankle and knee injuries from torn muscles and tendons.

Always use three-point contact when mounting and dismounting.

Sitting on the back of a trailer or the side of an open trailer before jumping will lessen the impact.
Prevention

Musculoskeletal disorders (MSDs), slips, and falls are among the leading causes of injuries in Ontario. To help prevent these injuries, make the following solutions part of your workplace health and safety program.

1. Climb down from the vehicle rather than jump. Mount and dismount only when the vehicle is parked.

2. Avoid wearing loose or torn clothing that can catch on the vehicle or equipment.

3. Provide proper ramps or ladders so workers can safely enter and exit trucks, trailers, and other heavy equipment. Take extra care in wet, snowy, icy, or other dangerous weather conditions.

4. Install slip-resistant steps and grab rails to help workers mount and dismount equipment safely. Keep running boards, treads, steps, footholds, and platforms clear of mud, ice, snow, grease, debris, and other hazards.

5. When getting off or on equipment, always face the equipment and maintain three-point contact—keep either two hands and one foot or two feet and one hand on the equipment at all times. Break three-point contact only when you reach the ground, the cab of the vehicle, or a stable platform.

6. If you can’t avoid jumping down, get as close to the ground as possible. Sitting on the edge and jumping from a seated position will lessen the impact on your body.

For more information on how to prevent MSDs, visit the MSDs and Ergonomics page at ihsa.ca/topics_hazards
First Student has been a leader in bus transportation in Canada for quite some time. It is also a leader in health and safety. First Student is one of the first transportation companies to seek out the Certificate of Recognition (COR™) in Ontario. The company runs school buses coast to coast, as well as some municipal transit systems such as the ones in Barrie and Orangeville. It has approximately 10,000 school buses on Canadian roads. When you see a school bus in your neighbourhood, it’s likely a First Student bus.

When COR™ was introduced to Ontario, First Student jumped on it. Having already been certified in Alberta, the company knew the value of COR™ certification. “When I joined First Student, it was going through a COR™ audit in Alberta, so I had to quickly learn what a COR™ audit meant,” says Barry House, Health and Safety Manager for Canada at First Student. “Being on the Board of Directors for IHSA, I first heard about COR™ coming to Ontario during a presentation at one of our meetings. It got me interested. I saw the benefits of being certified.” Mr. House went on to explain that those benefits relate largely to the bidding process.

“We are a business that relies on contracts. Whenever we’re bidding on a contract, it’s always good to have something that sets us apart from the others. COR™ will set us apart.”

In the construction industry, many predict that COR™ will become a vital component of the bid process. Mr. House feels the same will happen in the transportation industry. “Based on my experience in Alberta and my years as a health and safety professional, I think COR™ will eventually become a requirement. I think the sooner companies get on board, the better. You definitely don’t want to be on the outside looking in,” he says. “There are so many resources available to help you prepare for the audit, including IHSA consultants who will come out to your location.”

“I think the sooner companies get on board, the better. You definitely don’t want to be on the outside looking in.”
Many companies see COR™ as a logical next step after participating in Safety Groups. “We had been doing Safety Groups for a number of years, so we had been using the same instrument over and over again. We liked the idea of using something different. It forced us to look at things differently, which was refreshing. We also liked the idea of being able to audit ourselves,” says Mr. House.

COR™ focuses on 19 elements that promote healthy and safe behaviour. To become certified, a firm must first pass an internal audit of its health and safety policy and program and then pass an external, third-party audit.

“If you’ve been doing Safety Groups, you’ve already proven that you have a health and safety management system, so with some additional work, you can use what you’ve done with Safety Groups for the COR™ audit,” explains Mr. House as he describes his company’s experience. “Obviously, the COR™ audit is more in-depth than a Safety Groups audit because you have to do a number of interviews with employees and sometimes go to multiple locations, but the two programs certainly dovetail very well.”

Jane Wilkinson, First Student’s Senior Regional Safety Manager for Eastern Canada, agrees. After being involved with Safety Groups for several years, she feels First Student is ready to take things a step further. “I’m really looking forward to the employee interviews that are part of the COR™ process because they will help validate our training and identify some of the gaps that may not be obvious to upper management,” she says. “Talking to our employees will let us know how the policies and procedures are being received. I think that’s really where the value is.”
Safety culture: The hidden message in every decision

It’s impossible for employers and supervisors to watch over everyone on the jobsite all the time. Health and safety professionals make use of many strategies to ensure that everyone follows the rules and stays safe. But regardless of the methods they use, their goal is to foster a proactive approach towards injury and illness prevention. For example, while it’s important to have an effective disciplinary system in place, fear of punishment is unlikely to create a positive attitude towards injury and illness prevention. The goal should be not only for employees to follow the health and safety rules, but also to look out for other employees and remove hazards when they can. You want them to tell you about safety concerns before someone gets hurt. Ideally, you want them to integrate safe work habits into everything they do. By doing so, you will create a health and safety work “culture”.

Culture and performance
Culture refers to a set of beliefs, values, and attitudes shared by a group. Some describe it as what people do when no one is looking. Every workplace has a culture, whether it’s positive or negative. For years, companies have been harnessing the power of culture to achieve the results they want. Often, corporate cultures focus on innovation. Any firm can use the same principles to create a culture that has health and safety at its core. When management values safety, so will the employees. Workers will come to understand that sharing the company’s views on safety leads to the next contract or to a promotion. When safety is tied closely to job performance, you foster a safety culture.

Creating culture
Creating a safety culture is not something you can do overnight. As the employer, you have to incorporate health and safety into all of your decisions—and you have to back it up. Often managers talk about health and safety, ensure workers are trained, even hold regular safety meetings. The problem is that they don’t always support their words with their actions. Sometimes they even contradict what they say by what they do.

Consider the following scenario:
A construction company has a great health and safety policy and program. There’s also a health and safety co-ordinator on staff who ensures the company is meeting all its legal obligations. The company owners make sure that all new employees are given proper...
orientation and training when they start. In fact, they do their best to provide orientation and training in their employee’s first language. As part of his regular duties, the supervisor gives daily safety talks.

One day, the supervisor sees that a project will not be ready for the scheduled concrete pour because of unforeseen delays. When the supervisor informs the company owners, he is told to do whatever it takes to make the job ready. The owners say that they are not prepared to cover the cost of a delay at this stage. So, the supervisor passes this message along to the workers. To get the job done quickly, the workers don’t put up guardrails and they miss some bracing. The supervisor doesn’t do anything about it because he wants them to get the job done.

A situation like this doesn’t just happen in construction. There are many examples in transportation and electrical utilities where time constraints and costs seem to outweigh safety concerns. This is the reason why safety needs to be an integrated part of any work culture.

In this example, one decision by the owners completely undermines their earlier attempts to demonstrate how much they value safety. Their actions send a clear message that safety is something to push aside when a tight deadline is looming.

On the other hand, if the owners had covered the cost of postponing the concrete pour and allowed the workers to finish the job safely, they would have instilled a culture of safety in their employees. They would have helped create the type of environment where workers feel comfortable taking a few extra minutes to do thorough circle checks of their vehicles or making sure their harnesses are attached correctly.

If you act on your principles, the culture of safety in your company will become one where employees want to follow the rules and will look for ways to make things safer for everyone. That’s what we should all work toward.

Now that summer is here, remember to keep cool. If your work involves heavy physical labour in a hot, humid environment, you could be at risk of developing a heat-related illness. For more info and resources, including a heat stress prevention guide and a downloadable poster on the symptoms of heat stress, visit the Heat Stress topic page on our website: ihsa.ca/topics_hazards
MTO introduces new program to **reduce collisions by new operators**

The Ministry of Transportation (MTO) wants new operators of trucks and buses on Ontario highways to have fewer collisions and high-risk safety violations. That’s why the MTO is introducing the New Entrant Education and Evaluation Program (NEEEP) for new operators in the Commercial Vehicle Operator’s Registration program (CVOR).

The goal of the program is to improve new entrants’ knowledge of their requirements. NEEP will improve the MTO’s ability to risk manage new truck and bus operators by identifying poor safety practices within the first 18 months of operation. This will allow the MTO’s enforcement staff to focus on non-compliant operators instead of on operators who simply do not understand their obligations.

The three elements of NEEP are being implemented in three phases:

1. **Education** A *Commercial Vehicle Operators’ Safety Manual* (CVOS) is available online, along with an educational practice test. The manual provides the foundational elements of Ontario’s carrier safety laws (what to monitor) and the fundamentals of carrier safety-management best practices (how to monitor). It is available on the MTO’s website under Manuals and Guidelines: www.mto.gov.on.ca/english/trucks/

2. **CVOR Test** The CVOR test will be a one-time requirement. Operators will be required to demonstrate their knowledge of Ontario’s safety laws by completing a test in person at DriveTest Centre as a prerequisite to obtaining a CVOR certificate.

   The ministry has amended Regulation 424/97 of the *Highway Traffic Act*, “Commercial Motor Vehicle Operators’ Information,” to require Ontario-based CVOR applicants to pass this test before being issued a CVOR certificate and operating on Ontario roadways. This requirement will come into effect on October 1, 2013 and will not apply to operators who are renewing their CVOR certificate or to operators who have held a valid certificate within the previous three years before their application is received.

   The CVOR test is to be completed by a person representing the operator applying for the CVOR. For independent operators, this person must be the sole proprietor. For other operators, this person must be a corporate officer, a partner, or a director. The person who represents the operator cannot successfully complete the proficiency test on behalf of any other operator.

3. **Evaluation** The implementation of the evaluation element of NEEP is planned for 2014/2015. It will require Ontario-based operators to undergo a review of their applied safety management and remediation practices by completing an evaluation within the first 18 months of operation.

For more info on reducing collisions in transportation, visit our Motor Vehicle Incidents topic page at [ihsa.ca/topics_hazards](http://ihsa.ca/topics_hazards)
WHERE WOULD YOU RATHER WORK?
A safe site is a clean site.

Throw out the tripping hazards.
Special Section on
Falls

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- Don’t Trip Up
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- Temporary Stairs on Residential Construction Sites
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In the industries served by IHSA, falls are still one of the leading causes of fatalities and critical injuries. Although the number of lost-time injuries caused by falls in 2012 went down by 9.6 per cent, there were still 1,989 Ontario workers who fell last year. Some of those injuries were critical and some even fatal. So there’s still more we need to do to raise awareness about fall hazards. For that reason, the Ministry of Labour (MOL) is conducting a blitz on falls starting in September.

Throughout September and October, MOL inspectors will pay close attention to fall hazards when they visit construction jobsites. They will be looking at everything related to falls, from suspended access equipment to ladder use. They will look for evidence that all workers have completed fall prevention training and that they are familiar with the hazards and controls used on the jobsite.

Specifically, inspectors will focus on hazards associated with:
- guardrails
- inadequate or improper use of fall protection
- inadequate fall protection training
- access to and egress from a work platform
- the use and construction of scaffolds
- improper work platforms
- power-elevated work platforms
- suspended access equipment
- ladders.

For more info on the upcoming blitz, visit the News and Events section of our website or scan the QR code.

Resources
IHSA is here to help you and your workers prepare for this blitz. Many of the articles in this magazine will tell you what you can do to prevent falls by eliminating the hazards. In addition to the valuable information here, you will find more free resources on our website. Visit the Fall Prevention and Working at Heights topic page at ihsa.ca/topics_hazards to download free safety talks, posters, and prevention tips.

Training
IHSA’s Working at Heights: Fundamentals of Fall Prevention training program has set the standard for fall prevention training in the province. If your workers haven’t been trained yet, register them today at ihsa.ca/training
Leading-edge safety in high-rise formwork

In the high-rise formwork industry, nearly 23 per cent of all lost-time injuries are caused by falls. Most of these injuries result in sprains and tears, fractures, and concussions.

Formworkers create many of the walls and floors that everyone else on the project will work between. A leading edge is the unprotected side and edge of a floor, a roof, or formwork. It changes location as workers place new formwork in front or to the side of the piece they previously installed. By definition, high-rise formworkers will almost always be in situations where fall protection is required. However, when the edge is constantly moving, it’s more difficult to apply standard fall protection controls.

Here are a few ways to prevent falls when working toward the leading edge during formwork operations.

- Mark the transition from completed or “safe” areas to unprotected leading-edge areas with clear signs and barriers. Always keep barriers a minimum of 2 m from the leading edge operations. A sign must indicate that personal fall protection equipment is required in the work area.

| A fall protection system is required for any work done between a barrier and the leading edge. |

- Instead of a lifeline and rope grab, you can use self-retracting lifelines (SRLs). SRLs work by allowing the lifeline to unspool under slight tension. Just be aware that when you use SRLs, you will probably be in fall arrest, not travel restraint.

| Before using an SRL, check the manufacturer's instructions to ensure it can be used horizontally. |

- To minimize fall hazards, don’t extend the deck out to the end of the bay. Work across the leading edge, advancing each bay one step at a time.

| To minimize the possibility of formwork and falsework collapse, always nail the formwork in as you progress. |

- If you’re supplying materials to workers using fall protection, make sure you’re in a safe area or protected by using travel restraint or fall arrest.

| As the leading edge is advanced, install guardrails to contain workers and eliminate the fall hazard. |

- Use appropriate anchor points. You can wrap connectors or slings around concrete columns or several dowels of rebar or use embedded connection points that are specifically intended for anchorage. Check with an engineer if you’re unsure about proper anchor points (e.g., how many dowels of rebar are required). Affix the anchor securely so that the connector cannot slip or fall off.

| Wire or metal anchorage slings are more durable than webbing that can wear and tear over time. |

Due to the severity of the hazards involved in high-rise formwork, training is an essential first step. Train workers in the use of fall protection and make them aware of any site-specific fall hazards. Demonstrate proper leading-edge installation procedures including the setup of a fall protection system, the installation of guardrails, and the erection of signage and barriers.

Employers must have a fall emergency rescue plan in place whenever workers are at risk of falling.  
(O. Reg. 213/91, s.26.1 (4))
Do you feel perfectly safe working on a roof without fall protection? Do you think the soles of your boots are enough to prevent you from falling?

Each year, Ontario workers die as a result of falls and too many of them are roofers. Many roofers also suffer career-ending and life-altering injuries from falls. The good news is that there are some simple things you can do to protect yourself from a fall.

**Ladder safety**

Even before you get up on the roof of a building, you can fall. How you use your ladder to get up there makes all the difference. Ladder safety starts from the ground up.

Before using a ladder, it’s important to conduct a hazard assessment to ensure it’s the safest means of access and a safe surface to work from to perform the task. Some minimal work can be done from a ladder, like securing the top of the ladder or installing your first anchor point. IHSA has created a *Ladder Use in Construction Guideline* (ihsa.ca/pdfs/topics/ladders.pdf) that can help you determine when using a ladder is appropriate.

Before you set up your ladder, inspect it. If one of the rungs or rails is bent, cracked, or damaged, don’t use the ladder. Also inspect the footpads and pawls (or dogs) for damage. They are critical for maintaining stability once the ladder is set up. If the ladder is not in working order, write “Damaged! Do not use!” on a tag, put it on the ladder, and tell your supervisor or employer.

Safe practices when using ladders:

- Check for overhead powerlines before carrying or setting up a ladder.
- Set up the ladder on firm, level ground.
- Extend the top of the ladder so that it goes at least 900 mm (about three rungs) above the landing or roof edge.
- Secure the top and bottom of the ladder.
- When climbing up or down a ladder, always face it and use three-point contact—keep two hands and one foot or two feet and one hand on the ladder at all times.

Securing the top of the ladder or installing your first anchor point can be done from a ladder if a hazard assessment is done.
Sloped-roof anchors are designed to attach to the roof and support a lifeline.

2. Install intermediate anchors as you move from the edge of the ladder to the peak of the roof. Use double lanyards to work your way to the top of the roof.
3. If you have developed other methods, it’s a good idea to do a hazard assessment and keep it on site. It will show the MOL that you have considered all the hazards and chose the best way to perform the work.

Safe practices for installing roof anchors:
• If you are using a manufactured product, follow the manufacturer’s installation instructions exactly.
• Position the anchors so that your lifeline will run straight down the roof. This way, if you happen to fall, you won’t swing and hit something.
• Make sure you have a separate anchor and lifeline for each worker on the roof.
• Put roofing materials and equipment in places that don’t interfere with the lifelines or with other workers on the roof.
• Keep adjusting your rope grab so that you minimize the slack in your lifeline.

Unsafe roofs
Another hazard that roofers face is falling through the roof. Sometimes sheathing rots and loses its strength. This damage isn’t always apparent if the shingles are still on. If a roofer were to step or stand in that area, the sheathing could give way and the roofer could fall. A visual inspection of the underside of the roof through an access hatch may help avoid the hazard.

Once the anchor points are installed and the lifelines are connected, you can get down to the business of roofing. You’ll probably be able to do more and be better at it if you’re not so worried about falling. Working safely just makes good business sense. For more information about preventing falls, visit the Fall Prevention topic page at ihsa.ca/topics_hazards
Fifteen steps supervisors can take to prevent falls

It’s a supervisor’s legal obligation to take every precaution reasonable under the circumstances to protect workers. That’s an important duty that can sometimes seem overwhelming. But what if we just concentrate on one major hazard: falls. And what if we break it down into steps of five—five things you can do, five things you can say, and five ways you can show how to prevent falls? Just by following these 15 steps, a supervisor can lead workers along the path to safety.

Five things to do today

1) Ask workers one question.
Ask them if they know how many workers died from falls in Ontario construction in 2012. The answer is five. Workers need to know that the problem of falls is serious. Later in the week, give workers the fall protection quiz on page F15.

2) Check for missing guardrails.
Guardrails are often the best form of fall protection because they keep workers away from the edge. Keep an eye out for missing guardrails on scaffolds and floor edges. Ministry of Labour inspectors will be looking for them too.

3) Look out for ladders.
A lot of injuries involve ladders, but we use them so often that we don’t think about the dangers. Look for workers doing things that increase the risk of injury, such as leaning outside the rails, working off a ladder, or carrying something while climbing.

4) Check for floor and roof openings.
Too many workers have died after walking backwards into a floor or roof opening. Fasten a sturdy cover securely over the opening and write something like DANGER! OPENING—DO NOT REMOVE! DO NOT LOAD! on it with bright spray paint. Or install guardrails around the opening and put up a sign.

5) Give a safety talk.
We print a safety talk on the inside front cover of each magazine, and there are more free ones available at ihsa.ca/resources. We also send out a safety talk each morning through Twitter. It’s important to talk to workers about the specific fall hazards and fall protection equipment used on your site. Walk the site with them or meet in an area where you can see several fall hazards. Explain to workers what’s expected of them.

Five things to tell workers

1) “Do it right every time.”
“it will just take a minute” or “I have done this a hundred times before” can be a worker’s last words. Your employees are paid to be professionals. That means doing the job safely each time, every time, and all the time.

2) “Look out for other workers.”
You expect them to fix a problem that endangers other workers—but they need to know that. They should feel comfortable replacing a missing guardrail or a floor opening cover, even if it’s not in their work area.
3) “Use the right equipment.”
Workers need to know that wearing the required equipment is not an option. It’s mandatory.

4) “Tell me about the hazards you see.”
The law requires workers to inform their supervisor of any hazards that can affect them or other workers. They should feel comfortable calling you if they face a confusing situation or can’t control a hazard. It’s in your best interest to find out before an injury happens—so you can prevent it—rather than afterwards.

5) “Know your rights.”
If a worker faces a fall hazard and does not have adequate protection, the worker has the legal right to refuse the work. It’s better for everyone not to get into this situation in the first place.

Five ways to supervise
1) Show that you mean it.
More than anything else, your actions demonstrate your commitment to fall protection. Inspect your site every day. Point out the hazards. Suggest safer ways to do a job (e.g., using an elevating work platform instead of a ladder).

If all you talk about is productivity and deadlines, you encourage workers to cut corners. If your actions show that you care about your workers, you encourage them to protect themselves.

2) Plan your work.
Consider ways to avoid working at heights. For example, assemble roofs on the ground and hoist them into place; order prefabricated wall frames or trusses; use extension handles on tools to do painting or window-washing from the ground. At the very least, think ahead a few days. List the tasks that workers will do at heights.

Go to the jobsite ahead of time and look for fall hazards. Look for places where workers might use ladders, and order elevating work platforms instead. Prepare your equipment and other hazard controls in advance.

3) Train and inform your workers.
Workers must receive training on fall protection basics as well as the specific fall protection situations and equipment on the project. IHSA’s Working at Heights – Fundamentals of Fall Prevention is a good start, but you’ll need to address the specifics of the work they’ll be doing on the site.

The law also requires a supervisor to inform workers about the hazards on site. Knowing what to tell them becomes easy if you already have a system in place. Do a job hazard analysis and then give your workers a safety talk to describe what you found.

Ongoing training and coaching are part of a supervisor’s job. Put up posters, distribute IHSA stickers, and hand out safety talks. These reminders could save a life.

4) Enforce the rules.
Enforce the construction regulations and your company’s policies on fall protection. If workers are ignoring procedures (e.g., not tying off on sloped roofs), insist that they follow the procedures. Explain the consequences of ignoring them. Don’t be afraid to take disciplinary action when necessary. A company can’t afford to tolerate workers who continue to put themselves, other workers, and the business at risk.

5) Reward good behaviour.
Recognize workers who follow the rules. “Catch” workers doing something right and thank them for it. A small token of appreciation can make a person’s day and reinforce good behaviour.
Risk factors: Ladders

Although a ladder is not intended to be used as a work platform, there are situations where it is the safest means of getting the work done. In those instances, a risk assessment must be performed and any hazards associated with the ladder work must be assessed and controlled. These are five work situations that can increase your chances of falling from a ladder. Take them into consideration when doing your risk assessment.

1. Reaching to the side
   If you reach to the side so that your body goes past the ladder’s side rails, your weight can tip the ladder and cause it to fall. Keep your upper body aligned within the side rails. Tie off the ladder at the top and bottom. Never overreach.

2. Handling bulky or heavy material overhead
   If you’re standing on a ladder doing overhead work—particularly if the work involves bulky or heavy material (such as drywall)—you’re risking a fall. Your shoulder and arm muscles fatigue more quickly than your back and leg muscles. This could cause you to drop what you’re handling. Also, you should have at least one hand free to stabilize yourself on a ladder. For this kind of activity, find an alternative to working from a ladder.

3. Using a lot of force
   When you do things such as pull wire bundles with high resistance or swing a sledgehammer, you’re applying a lot of force at one time. If you’re on a ladder, the reaction force on your body can throw you and the ladder off balance. Avoid doing this kind of work from a ladder—it’s just too risky. Look for an alternative.

4. Applying a constant force
   When you’re applying a constant force on something—such as a drill—your centre of gravity often shifts because you start to rely on the tool as one of your points of support. When you “lean into” a drill, you get accustomed to it and forget that you’re counting on the drill for support. But, what happens when the drill bit reaches the end of the material and suddenly slides through? You’ll be thrown off balance. If you’re on a ladder when this happens, you can tip and fall. Avoid doing this kind of constant-force work from a ladder if you can’t maintain three-point contact.

5. Experiencing muscle fatigue
   Tasks that require continued or repeated reaching or handling heavy material can fatigue your muscles. When your muscles are tired, you have less control over your balance, and it’s harder to recover your stability if you’re thrown off. Take adequate breaks to rest and replenish your fluids.

For more information on ladder safety, visit [ihsa.ca](http://ihsa.ca). Our website offers a bounty of information on fall prevention and ladder safety as well as a range of products, many of which are available at no cost.

Download the Ladder Use in Construction Guidelines

Workers on construction sites continue to fall from ladders and become critically injured or killed. The Provincial Labour-Management Health and Safety Committee (PLMHSC) has prepared a guideline on safe ladder use in construction to assist workplace parties in understanding their obligations under the Occupational Health and Safety Act (OHSA) and its regulations.

The Ministry of Labour views the guideline as a recommended set of industry best practices that may be used as part of an employer’s health and safety program. To view the guideline, visit [ihsa.ca/pdfs/topics/ladders.pdf](http://ihsa.ca/pdfs/topics/ladders.pdf)
Don’t trip up
How to prevent slip and trip injuries

When you hear “falls”, you probably think about falling from a ladder, a roof, or some other high place. It’s true that falls from heights do cause the most injuries, and they’re usually the most severe. But did you know that about one-third of all lost-time fall injuries happen when workers fall to the same level they’re standing or walking on? For example, a worker might fall after stumbling over a two-by-four, tripping on some garbage, or slipping on a muddy plank.

From 2001 to 2011, more than 14,000 Ontario construction workers suffered lost-time injuries from trips and slips. Statistics show that the body part most frequently hurt in such injuries is the knee. Other parts frequently injured are the shoulder, ankle, back, and wrist.

Most slip and trip injuries are caused by poor housekeeping (i.e., not cleaning up garbage around the site). The easy solution to this hazard is to keep your site clean.

What employers and supervisors can do
✓ Develop a plan for keeping the site clean, particularly for removing construction debris and other garbage from walkways, stairways, and work areas. You can develop a plan for continuous housekeeping or you can schedule it for a specific time.
✓ Include site-specific guidelines in your jobsite orientation describing contractor and worker responsibilities for keeping the site clean.
✓ Keep building entrances clear.
✓ Remind workers of their responsibilities by giving safety talks on housekeeping, especially when you see the site getting cluttered.
✓ Ask equipment operators to steer clear of soft ground and to avoid walkways. Otherwise the tires or tracks will make ruts in the ground, which can cause you to trip or twist an ankle. Repair ruts or uneven ground on walkways.
✓ Put down sand or salt in winter.
✓ Elevate the main walking paths.
✓ Fill low-lying areas with gravel to reduce the accumulation of water, ice, and mud.
✓ Provide enough disposal bins around the jobsite to make it easy for workers to put their garbage in the right place.

What workers can do
✓ Before starting work, look around your work area and become familiar with your surroundings.
✓ Keep the areas at the top and base of ladders clear of debris.
✓ Pay attention to your footing when carrying things.
✓ Don’t walk backwards. If you have to walk backwards—say, to carry something with another worker—then make sure the path is clear ahead of time.
✓ Walk, don’t run.
✓ Clean up after yourself.
✓ If you see a tripping hazard, clean it up or fix it. Otherwise, tell your supervisor.

Remember: Although the constructor and the employer can suffer financially after an injury, the worker is the one with the most to lose.
Utility workers: Do you trust your fall protection equipment?

Utility workers who rely on fall protection equipment as part of their job need to know how to care for, maintain, and inspect their equipment. The equipment must meet current standards, must be in good condition, and must be able to withstand the rigors of the job in order to keep you safe.

Inspections

Inspect your fall protection equipment before each use. During the inspection, make sure all the equipment you will be using is available. This can include the following.

- Full-body harness
- Lanyard
- Climbing belt
- Pole straps
- Personal retractable lanyard
- Spurs and other similar gear
- Fall restricting device system for wood pole climbing.

Your equipment should be stored so that it is well protected, such as in a gear bag or tote. If it’s stored with spurs, use gaff guards to protect the equipment from unintentional punctures or wear.

In addition to the inspections performed before each use, a worker who is competent in inspection should perform an annual inspection of the equipment and document the results. Your company should have an inspection form that records the date of manufacture, the date put into service, the equipment being inspected, who is doing the inspection, and the date of next documented inspection. Often the inspection form is supplied by the manufacturer and is specific to their equipment. A company can create their own form using the manufacturer’s form as a guideline. Inspection forms are good for both regularly used equipment and any rescue equipment that is used in emergency situations.

Harness

When inspecting a harness, it is important to look at the following:

- overall condition
- general cleanliness
- fall arrest indicator
- sun exposure
- wear
- labeling and marked in-service date
- webbing (look for cuts, burns, or excessive wear along load-bearing portions)
- stitching and wear at connection points
- attachment points and connectors.

Lanyard

Inspecting the lanyard is just as important as inspecting the harness. Pay particular attention to:

- the in-service date
- the condition of webbing
- the quality of stitching at connectors
- the condition of the connector operation, compliance, and compatibility
- energy absorbers and use of the shock pack. (Is it still intact?)
To determine when equipment should come out of service, reference the inspection criteria recommendations in the informative Annex of the CSA Harness standard.

Once all rescue equipment has been inspected, document the results and keep a copy of all inspection information. These regular inspections will help keep equipment at its best. It will be ready for its intended use if ever needed.

**How IHSA can help**

Courses such as Advanced Fall Protection and Working at Heights - Fundamentals of Fall Prevention can help ensure workers are properly trained to take part in work that requires fall protection. Rescue practices are a regular part of many IHSA courses such as Powerline Technician Apprenticeship, Powerline Technician Proficiency, and Rescue Techniques and Bucket Evacuation. IHSA also offers safety talks and other materials that emphasize proper use and care of fall protection equipment. For more details, visit the Fall Prevention and Working at Heights topic page at ihsa.ca/topics_hazards

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**Connecting components**

- Look for damage such as cracks, dents, bends, or signs of deformation.
- Make sure connecting rings are centred, not bent to one side or otherwise deformed.
- Look for signs of rust.
- Check that moving parts are working smoothly.
- Look for signs of wear or metal fatigue.

**Load-bearing components**

Carefully inspect all load-bearing components of fall restricting devices. Are the pole straps in good condition? Is there excessive wear? The load-bearing portion of the climbing belt is typically webbing that connects to either D-rings, a rope bridge, or a synthetic bridge and is partially concealed by the strap that positions the belt on the worker. Belt and tool loops should be in good condition. Tags and labels should be intact. Make sure to check the in-service date and manufacturer’s recommended out-of-service date.

**Rescue equipment**

In addition to a worker’s personal gear, consider implementing a regularly scheduled inspection of your equipment for pole top rescue, bucket rescue, bucket evacuation, tower or structure rescue, and confined space rescue. During the inspection, make sure you don’t damage the rescue gear. If you drop carabiners, harnesses, lanyards, fall protection systems, or components, carefully inspect it for damage or send it to a proper inspection facility. Remove it from service if the integrity of the equipment cannot be confirmed.

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**The employer shall make the training and instruction record for each worker available to an inspector on request.**

(O. Reg. 213/91, s. 26.2(4))
On residential construction sites, temporary stairs are often put in place before the permanent stairs are built. However, when these stairs are improperly installed or poorly designed, it can be hazardous for workers, inspectors, and other visitors to the site.

**Temporary stair hazards**

If temporary stairs are not installed properly, a worker can fall off or the stairs can collapse. This can cause serious injury or even death. Listed below are some common problems associated with temporary stairs.

- The stairway is not properly secured at the header and the base. This may cause the stairs to slip and slide when heavy weights are placed on the stairs.
- The stairs are not in good condition. Cracked or missing stringers, steps, and grooves may reduce the strength of the structure and cause a collapse when heavy weights are applied.
- The bottom of the stairway is installed over a floor opening that may not be able support the weight of heavy loads.
- The stairway is too long or short to attach to the floor correctly (e.g., if an eight-foot stairway is connected to the floor nine feet above it, the stairway would be installed at an incorrect angle or a base would have to be added at the bottom).
- The stairway going down to the basement is installed without making allowances for pouring the concrete slab. If workers have to raise or move the stairs, it reduces the structural integrity of the stairs and all connecting points.
- The stairway is installed at an improper location (e.g., it leads to a concrete wall instead of an entrance to the upper floor).
- A ramp used as a stairway does not comply with the requirements of stairs under the construction regulations. A ramp cannot exceed a slope of 1:3 and is required to support a much lighter load than stairs (O. Reg. 213/91, s. 73 and 74).
- Workers do not notice warning signs posted on temporary stairs that have not been installed properly.
- The stairs are too narrow.
- A buildup of ice and snow on the stairs cause a slip and fall hazard.
Preventing temporary stair hazards

What the legislation says

The best way to ensure that the temporary stairs on your project have been properly designed and installed is to follow the legislation in the Regulations for Construction Projects 213/91.

• Under section 70, all construction projects must have access to and egress from work areas located above or below ground level by stairs, runway, ramps, or ladders.

• Under sections 17 and 71, adequate means of egress must be provided from work areas during an emergency for the evacuation of workers.

• Under section 75, no work should be performed in a structure that will be at least two storeys high unless stairs are installed. As the construction progresses, permanent or temporary stairs must be installed up to the uppermost work level or to within two storeys or nine metres below the uppermost work level.

• Under section 76, the temporary stairs and landings must be designed, constructed and maintained to support a live load of 4.8 kilonewtons per square metre (100 lbs per square foot) without exceeding the allowable unit stresses for each material used. No temporary stair or landing should be loaded in excess of the load it is designed and constructed to bear.

• Under section 77, no work should be performed in a building or structure with stairs unless the stairs have:
  1. a clear width of at least 500 millimetres
  2. treads and risers of uniform width, length and height

Source: Electrical Safety Authority

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Source: Electrical Safety Authority
3. stringers with a maximum slope of 50 degrees from the horizontal
4. landings that are less than 4.5 metres apart measured vertically
5. a securely fastened and supported wooden handrail on the open sides of each flight
6. a guardrail on the open side of each landing.

**What installers can do**
If you’re responsible for installing temporary stairs on a site, here are some ways to ensure you’ve installed them correctly.

- Before installing the stairs, plan the layout and location to provide easy access between floors. Users should not have to change direction when entering or exiting the stairs and the vertical distance between the landings and the floor entrances and exits should be consistent.
- Install a prefabricated stairway according to the manufacturer’s instructions and the construction regulations.
- If a prefabricated stairway is not installed according to the manufacturer’s specifications, erect some type of guardrail to physically prevent workers from using it. Placing warning stickers on the stairway isn’t good enough.

**What you can do**
Whether you’re a worker, an inspector, or simply a visitor to a site, here are some things you can do to protect yourself when using temporary stairs.

- Upon entering the site, make sure the temporary stairs provide a safe way to enter or exit work areas located above or below ground level.
- Inspect the temporary stairs, headers, footers, and handrails to make sure they’re in good condition.
- Check the temporary stairs to make sure they meet the requirements outlined in section 77 of the construction regulations (see above). Use Figure 1 as a reference guide.
- If you are unsure of the condition of the temporary stairs or if you see a warning sticker on the permanent stairs, do not use it. Check with the supervisor or employer or use another access way.
- Do not tamper with or make any changes to the stairway.

*The guardrails or walls on the upper floor/landing have been excluded to keep the diagram clear.*
Fall protection quiz

1. How many Ontario construction workers died from falls in 2012?

2. What is the best method of fall protection?

3. Does fall protection training expire?

4. When do you need guardrails?

5. If someone removes a guardrail for material delivery, who is responsible for putting it back?

6. A fall-arrest anchor must be able to hold (choose one answer)
   a. the weight of a worker
   b. twice the weight of a small car
   c. the weight of a small car.

7. Why is keeping your site clean important for fall protection?

8. What’s a typical fine a worker will have to pay for not using fall protection?

9. What should you do if you don’t know how to protect yourself from a fall hazard?

10. What motivates you to use fall protection?
1. Five construction workers died from falls in 2012.

2. The best fall protection method prevents you from reaching the fall hazard in the first place. For example, guardrails physically prevent you from reaching an open edge. You simply can’t fall. A travel-restraint system also prevents you from reaching an edge. A fall-arrest system, however, does not stop you from going over the edge. The system will stop your fall in mid-air, but it’s always better not to fall. There are many situations, however, when fall arrest is your only option.

3. Your training on the basic principles of fall protection doesn’t expire. But proper fall protection training also includes site-specific and equipment-specific training. You must be trained on the specific equipment, systems, and situations you’ll encounter on the job. If any of these variables change, you will need new site-specific or equipment-specific training.

4. When to use guardrails depends on the situation. Section 26 of the construction regulations describes the precise requirements for the open side of work surfaces, but here are some rough—but safe—rules you can follow. You need guardrails:
   • if you’re over eight feet (2.4 metres) high
   • if you could fall four feet (1.2 metres) and the area is used as a path for a wheelbarrow or similar equipment

   • at any height if you could fall into operating machinery, into water or another liquid, into a hazardous substance or object, or through an opening in a work surface.

If you can’t install guardrails, you need to use some other form of fall protection that complies with the construction regulations.

5. Someone who knows how to replace the guardrail properly must put it back immediately after the delivery. Everyone on the jobsite, however, is responsible for reporting hazards. If you notice that a guardrail is missing and you can’t replace it yourself, find someone who can or tell a supervisor.

6. A fall-arrest anchor must be able to hold the weight of a small car (about 3,600 lb).

7. Keeping the site clean is important because it’s easy to trip on debris and garbage. In the winter, ice and snow make surfaces slippery.

8. A typical fine for not using fall protection is $295.00.

9. If you don’t know how to protect yourself from a fall hazard, ask your supervisor. Never face a fall hazard without protection.

10. Each person may have a different motivation to use fall protection. Some people consider what it would be like for their children, their wife or husband, or parents if they died on the job. Others want to prevent a brain injury or other disability. There are hundreds of good reasons to use fall protection. Remember yours.

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**Working at Heights: Fundamentals of Fall Prevention**

**M:** $100  **NM:** $320

If your workers haven’t completed mandatory fall protection training, register them today for IHSA’s Working at Heights training program. This course addresses the basic fall-prevention information workers need to know to work safely in areas where they may be exposed to fall hazards. Upon completion, participants will be able to recognize fall hazards and apply appropriate controls. To register, visit [ihsa.ca/training](http://ihsa.ca/training)

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**Tie off posters and stickers**

Use these posters and stickers on your jobsite to remind workers how important it is to tie off to an appropriate anchor point.

**P042** – Fall Protection poster 17” x 22” Vinyl  
**M:** $6.45  **NM:** $13.95

**S052** – Fall Protection stickers 2½” 10/pkg  
**M:** $0  **NM:** $5.95