

SLIP & FALL PREVENTION

SLIPS AND FALLS...

Slips and falls account for many disabling injuries to employees of our member firms. You can help eliminate falls.

THE PHYSICS OF A FALL

People fall because the body is suddenly in an uncontrolled and unstable position. The erect human body has a center of gravity that intersects an area between the two feet.

FIGURE A

In position "A", the body is balanced. Every time you take a step your center of gravity moves forward and, in effect, you fall forward. To counteract the falling motion, you move one foot ahead to maintain your balance. Walking or running is no more than a constant falling and recovering.

Once you are in motion, the body's momentum creates a force to continue moving it in the original direction. An abrupt change of direction, a change in the walking surface or an object in your way can throw you off balance and cause you to fall.

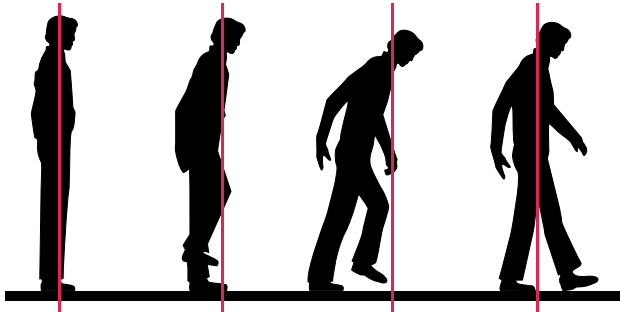


FIGURE A

HOW TO FALL

Learning how to fall can reduce injury. Wrestlers and football players learn the art of falling early in their training.

If you start to fall, don't stiffen up. Relax and let your legs or arms act like a spring. Roll as you land so the energy of the fall changes direction instead of stopping suddenly.

FORCE OF A FALL

A tremendous amount of energy is generated in a fall even from a low level. The force of a fall can be greatly reduced if it is spread over a wide area or if there is some controlled deceleration before the final stop. If you fall and land flat, the force is spread over all the parts of your body that come in contact with the landing surface. If all the force is concentrated on the back of the head, the elbow, hand, or a hip bone, all of the force is concentrated on that one area.

A force of 200 pounds spread over an area of 4" by 5", or 20 square inches, distributes the weight by 10 pounds per square inch. The same 200 pounds concentrated on an area of 1/4" by 1/4" – such as an elbow or a contact point on the head – generates a force of 400 pounds on an area of 1/2" square. That can break an arm or fracture a skull.

The landing surface has an impact on the force of a fall. If you fall on a very hard surface, you come from a point of maximum speed to zero almost instantly. If you land on a soft resilient surface, your downward speed is slowed more gradually, reducing the final force of the fall.

FALLS AND FRICTION

Friction is required to stay on your feet. Without resistance, one of your feet will slide out from under you. An oil slick, water spill or ice patch can reduce friction. Spread fine grit or an abrasive over liquid to create friction.

PREVENTING FALLS

VISION

If you see an object or a change in the walking surface, you are at risk of falling. Watch for these situations:

- dark or poorly lit areas
- blocking your vision by carrying boxes or material
- poor eyesight or dirty glasses
- health problems - balance organs are in the middle ear, and medicines and alcohol can upset these delicate balancing mechanisms.

FALLS ON LEVEL SURFACES

- Watch for slippery spots. Report them or wipe them up.
- Use aisles where provided – don't take shortcuts.
- Remove hazards from the floor that could roll, slide or trip you.
- Report uneven or worn floors.
- Wear work shoes with non-skid soles and rubber heels.

FALLS FROM HIGHER UP

- Never run on stairs.
- Always use the handrail.
- Do not jump from work platforms, trucks or loading docks.
- Observe all safety steps when using ladders.

FALLS WHEN MATERIAL HANDLING

- Balance any article that you are carrying.
- Do not obstruct your view with materials.
- Check your path before moving an item.

TRUCK FALLS

Tractor trailer drivers can risk falling in three areas:

1. Entering or exiting the cab. Watch where you place your feet.
Use step-plates and hand-holds. Use three point contact.
2. Between the tractor and the trailer. When necessary to climb here, use step-plate and hand-holds. Use three point contact.
3. The back end of the trailer. The back end of a trailer is extremely hazardous and causes many slip and fall injuries.
Never jump from the trailer; always climb in and out slowly, using available step-plate and hand-holds.

VAN TRUCKS

Prevent falls in van type trucks by welding or bolting hand-holds or step-bars on the back of a van, or use mobile steps.

In stand-up and walk-up vans, tripping can occur because the driver's arms are full of packages and vision is obstructed. Look out and down before taking the first step. It is most important to be sure of your footing and grip at all times.

BUS FALLS

Buses of all types: school buses, transit buses and charter buses, have a double risk of falls – for drivers and passengers.

- Stop as close to the curb as possible so passengers don't have to take giant steps to get on or off. Make sure passengers are seated before starting.
- Inspect your bus at the beginning and end of each run and check for and remove any slip-trip hazards.
- Keep all floor and step areas clean and in good repair.
- Charter bus drivers should be first out and last into the bus so they can assist passengers off and on.
- School bus drivers should remain seated and offer repeated instructions to riders advising them to watch their step and use the handrail.

THREE POINT CONTACT KEEPS YOU SAFE

A major portion of slip and fall injuries occur when mounting and dismounting truck cabs and cargo areas. The three point contact procedure is a good method for preventing this type of injury.

This concept is fundamental. Three points of contact are necessary to maintain stability while getting on or off trucks or equipment. To do this, a person must maintain contact with one hand and two feet or two hands and one foot to form a stabilizing triangle of contact.

New equipment is being designed with hand-holds and foot plates to accommodate the three point contact requirement. Older equipment can be retrofitted to provide safe movement in and on your vehicle.

WINTER HAZARDS

In the winter, the risk of slips and falls becomes more extreme. Exercise extra caution in adverse weather conditions.

IT'S UP TO YOU

Many injuries from falls are caused by a lack of attention. Prevention is up to you.

- Be alert.
- Identify trouble areas.
- Eliminate fall hazards.
- Report defects.
- Offer safety suggestions.

THSAO is committed to working with both management and employees in the transportation sector to create a healthy and safe work environment.

We work with our member companies through consulting, evaluations and training. As your partner in safety, together we can prevent occupational injuries and illnesses.

Safety awareness is the first step to health and safety. Prevention is our ultimate goal.



Transportation Health & Safety Association of Ontario

Head Office

555 Dixon Road, Suite 101,
Toronto, Ontario M9W 1H8
Toll Free: 1-800-263-5016
Telephone: 416-242-4771
Fax: 416-242-4714

Open Course Registration

1-877-242-7077

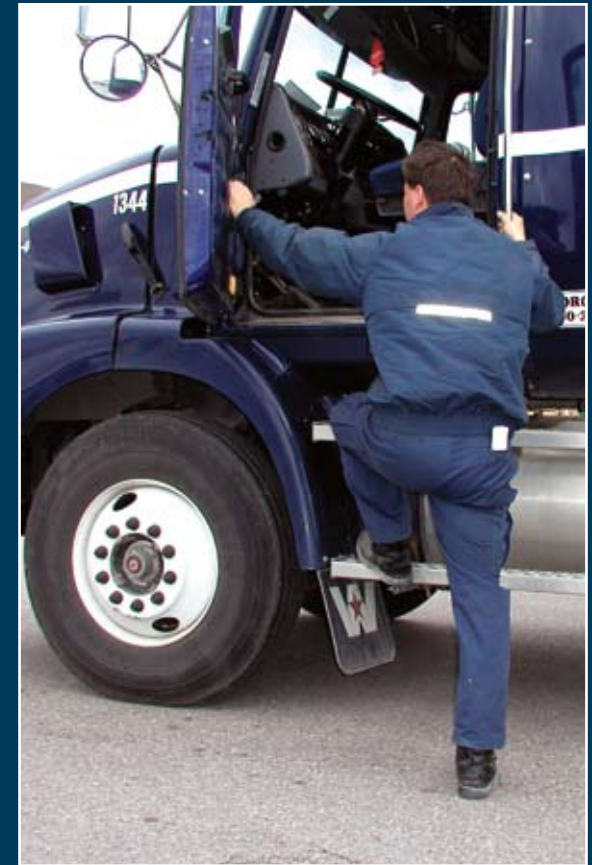
General Inquiries

Regarding consulting, audits and
in house courses
1-877-242-7079

www.thsao.on.ca
[email info@thsao.on.ca](mailto:info@thsao.on.ca)

TRANSPORTATION HEALTH & SAFETY
ASSOCIATION OF ONTARIO

SLIP & FALL PREVENTION



THSAO
Transportation Health & Safety Association of Ontario