Workshop Objectives

By the end of this workshop, the participant will understand:

1. The importance of having a rescue plan
2. What happens to a person once they fall
3. The impact the fall has on the body
4. The equipment required to do the rescue
5. The law on rescue plans in N.B.
Before Initiating Fall Arrest

• Ask yourself these questions:

1. What will happen when I fall?

2. Where will I fall?

3. How will I get out of it?
Famous Sayings

- I have been doing this for many years…
- I have the experience…
- This is what I was trained for…
- What could go wrong?
- OK, I know what I am doing.
- This is the right way, right?
There Are Four Questions for Rescue Planning

1. Who will be executing the rescue operation?

2. Where will the rescue take place?

3. What kind of equipment do we need?

4. What are our rescue options for this area?
1. Who Will be Executing the Rescue Operation?

Chances are good that rescue operations will begin with on-site personnel, as long as you have a plan and have trained properly so that an effort can be made to rescue the victim.

Often rescue operations begin at the same time as emergency services are summoned. The best case scenario is that on-site workers are able to rescue the fallen worker, before the emergency services arrive.
2. Where Will the Rescue Take Place?

By simply considering the various places your workers are exposed to fall hazards, companies can get a head start on their site-wide rescue planning. Each area within a work site where fall protection is needed will require its own written rescue plan.
Rescue Procedures According to OHSA General Regulation 91-191

49.2(4) Before any use of a fall-arresting system by an employee, an owner of a place of employment, an employer or a contractor shall develop a procedure to be used for rescuing an employee in an emergency.

49.2(5) An owner of a place of employment, an employer and a contractor shall each ensure that an employee is trained to use the procedures referred to in subsection (4) for rescuing another employee in an emergency.
3. What Kind of Equipment do we Need?

It will depend on the site itself, because sometimes the employee can be far away from the anchor point. These are some equipment examples:

1. Ladder or step ladder
2. Rescue pole
3. Crane
4. Scaffold
5. Aerial work platform
4. What are our Rescue Options for this Area?

Each fall hazard site requires a plan to be developed to return a fall victim safely to the ground in the event that they are incapacitated and unable to help the rescue in any way. Workers need the tools to complete their task effectively and with as minimal time wasted as possible.
Items to Include in your Rescue Plan:

• Types of rescue equipment available to worker.
• Locations of any rescue line anchor points for rope rescue.
• How to attach retrieval or lowering lines to a fallen worker’s harness.
• Specifics about training required to perform rescue work.
• Other site-specific details needed for a safe and successful rescue.
Debriefing

After any rescue operation it is important to take stock and consider how smoothly the execution of the rescue plan went. Unexpected events or problems during a rescue can be used to improve the plan in the future.

It is also important that the employees involved in the rescue are debriefed to ensure this incident will not affect them in the future.
OK, so we rescue them!

• Not so fast! There’s something important to deal with:

• The blood that is trapped in the legs may not be in very good condition, and may even kill the person if we let it all pour back into their brain.

• This is called the ‘reflow syndrome’ and is medically very complicated – you will not be able to control it once it starts, and the patient will die. Luckily you can prevent it from happening if you handle them with care!
Reflow Syndrome

• Pooled blood in the legs is ‘stale’ after 10-20 minutes
  – Drained of oxygen, saturated with CO₂
  – Loaded with toxic wastes (from the fat burning process)
• Re-elevating the legs, returns this blood to the rest of the body in a massive flood
  – Heart can be stopped
  – Internal organs (especially the kidneys) can be damaged
• You have to stop this flood of stale blood but still keep enough trickling to the brain to keep the person alive!

Anyone released from immobile suspension should be kept in a sitting position for at least 30 minutes
Other symptoms after an employee fall from heights with the harness

- **Orthostatic intolerance**: is an abnormal response to being upright that can cause dizziness and possible fainting.

- Suspension trauma
Suspension Trauma

- Also known as “harness-induced pathology” is a perfectly natural reaction caused by the body being held in an upright position.
Who Does this Affect?

Anyone who could faint and not fall over.

This includes:

- People working in industrial harnesses
- People using harnesses for sport
- People using harnesses for special tasks
How Long Have You Got?

- If your legs are perfectly still, you could start to feel the first signs of shock in as little as 3 minutes.
- The average is between 5-20 minutes.
- You can faint shortly after those first signs.
- If not allowed to sit down right away, your brain can start to die a few minutes later.
Preventing Suspension Trauma

• Without being too obvious, the best way to prevent suspension trauma is to avoid getting into a position where it can take place.

• Working with harnesses is perfectly okay, provided you have proper plans and procedures in place for suspension trauma.
Signs and Symptoms

• Faintness
• Breathlessness
• Sweating
• Paleness
• Hot Flashes
• Increased Heart Rate
• Nausea
• Dizziness
• Unusually Low Heart Rate
• Unusually Low Blood Pressure
• “Greying” or Loss of Vision
Factors that can Affect the Degree of Risk

• Inability to move legs
• Pain
• Injuries during the fall
• Fatigue
• Dehydration

• Hypothermia
• Shock
• Cardiovascular disease
• Respiratory disease
• Blood loss
Treatment

• Never allow the patient to lie down.
• Place them in a semi-sitting position.
• Send for an ambulance ASAP.
• Ensure adequate breathing and airways are open.
• Start the patient on high flow oxygen (if possible).
• Ensure no other signs of injury.
• Keep the patient warm.
Hitting the Ground

• Lowering systems must be controlled to prevent the patient’s body being laid flat as it reaches the ground.
  – Keep them **sitting up** for 30 minutes!

• Normal first-response and paramedic rules are **WRONG** (misunderstood).
  – This is not ‘fainting’!
  – You need to stop ‘professionals’ from doing the wrong thing, by laying the patient flat on a trolley or hospital bed.
Conclusion and Recommendations

To reduce the risk associated with prolonged suspension in fall-arrest systems, employers should:

• Implement plans to identify risks in the use of fall arrest equipment.

• Prevent prolonged suspension in fall protection devices.

• Implement control zones and training.
Suspension Trauma Straps
Fall Protection Rescue Plan

Thank you for your participation!

Questions?

Bruno Gagné
129 Desjardins Road
Drummond, N.B.
E3Y 1T5
Phone: 506 473-6033
Cell: 506 479-0033
E-mail: info@wssnb.com
Website: info@wssnb.com
Company Name

Working at Heights Rescue Plan Risk Assessment (example only)

Document #: ______  Revision Date: __________

Site Address: ______________________________

Location/ Area: ____________________________

What task has to be done: ____________________________________________________________

Employees:

Name of the employees who are working at heights:

1) ______________________________

2) ____________________________

3) ______________________________

4) ____________________________

Rescue:

In the event of an emergency/ fall from heights, the employee in the near vicinity should immediately alert:

Rescue team Name: _____________________ Phone #: ________________

911 should be called immediately to ensure that the ambulance service is on site as soon as possible. Send an employee to the main entrance to direct the ambulance services.

Safety of rescuers:

What obstructions are in the way of reaching the suspended employee? (Details)

____________________________________________________________________________

____________________________________________________________________________

Has consideration been made to methods of attaching the casualty? (Details)

____________________________________________________________________________

____________________________________________________________________________
How will the rescuer get to the casualty?

Rescue ladder ................................................. Remote rescue kit ..............................................
Keys to building and roofs .......................... Aerial equipment from ground ......................
Crane man basket ........................................ Suspended access equipment ......................

What equipment will be required to rescue the casualty?

Rescue ladder ................................................. Aerial ladder truck.........................................
Rescue kit ........................................................ Suspended access equipment ......................
Crane man basket ........................................ Climbing/rope rescue kit ..............................
Stretcher ........................................................ First aid kit ...................................................

How will others be protected?

Assign someone to direct traffic.............. Set up barriers ..............................................

How will the accident scene be protected?

Prevent further injuries ...................... Set up barriers ..............................................
Preserve the area with caution tape .... Report of the incident ..............................

Work at heights rescue plan produced by:

Name (print) __________________________ Position: ______________________________
Signature: __________________________ Date: ______________________________