

Fall Protection

Fall Protection - Working at Heights Rescue Plan

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What is a working at heights rescue plan?

A working at heights rescue plan refers to written emergency response procedures for quickly retrieving and providing help to a worker who has fallen while working at heights. A rescue may be needed when a worker falls or needs rescue for other reasons (including medical emergencies or mechanical failures) and is located at an elevated position, such as being suspended by a fall arrest harness. Rescue may also be required while the worker is on a roof, crane, elevated platform, lifting device, or other areas.

While a [fall protection plan](#) is intended to help prevent falls, it is important to include a rescue plan in case of an emergency.

Why are rescue plans important when working at heights?

Relying only on calling for local emergency services after an incident as a rescue plan is **not** appropriate.

Workers who fall and become suspended in their fall arrest harness need to be rescued immediately. Suspension trauma (also referred to as orthostatic intolerance) involves blood pooling in the lower body, reducing the amount of oxygen available to the brain and other vital organs. It occurs when a worker hangs in the harness for too long. The harness may create pressure, preventing the blood from circulating, or the worker may be in shock, unconscious, or otherwise not able to move their legs, causing blood to pool in their lower limbs. This trauma can occur in minutes and can cause serious health effects such as damage to the brain, kidneys or other organs. Death may occur in less than 30 minutes.

The worker may have sustained an injury from the fall or be unconscious and be unable to rescue themselves or assist the rescuers.

A rescue may be needed if a worker experiences a medical emergency while working at heights, such as heat stroke, fainting, and cardiovascular or respiratory distress, and is unable to get down on their own or requires immediate medical assistance.

The plan must also consider that the conditions or hazards that caused the fall may also be a risk to other workers, including the rescuers.

What elements should a rescue plan include?

Before a specific task begins, make sure that the plan covers any possible scenarios experienced at the specific worksite. Adjust and modify the rescue plan as needed.

A rescue plan should include the following details:

- Be written, reviewed and posted before work begins
- Identify who will conduct the rescue and their roles and responsibilities
- Include procedures for identifying, assessing, and controlling hazards
- Outline training requirements for both rescue personnel and workers performing work at heights so they understand what they must do after a fall and during a rescue operation
- List the emergency rescue equipment and first aid supplies that must be on site
- Identify on-site first aid personnel and include all contact information
- Identify the required personal protective equipment (PPE) for rescuers
- Indicate how a rescue will be initiated and the communication protocols

- Include procedures for:
 - rescue, including rope rescue, ladder rescue, retrieval lines, self-rescue, and location of anchor points
 - using any powered mobile equipment, mechanical hoisting systems or elevating devices that may be required during the rescue
 - first-aid and medical care for rescued or injured workers, including transport of the worker to the hospital
 - Identify the communication system that will be used. Make sure there is a backup system for the main method of communication
 - Identify all emergency exits and access routes within the worksite, including the roof and work area
 - Include procedures to clear and secure work areas that are unsafe or may interfere with a rescue
 - Provide contact information for local emergency medical and fire services, as appropriate (NOTE again: Relying only on calling local emergency services after an incident as a rescue plan is not appropriate.)
 - Review and update as needed (e.g., on a regular schedule, after changes to the worksite or tasks, and after a rescue or related incident)
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What should be included in a working at heights rescue plan?

There are many factors to consider when developing a rescue plan. It is important to begin planning well before any work is done at heights to make sure the rescue plan is appropriate and that the rescue team is thoroughly trained. When developing the plan, involve qualified individuals competent in rescue at heights and those workers doing the work. Make sure the plan is specific for the job and considers the hazards, location, tasks being performed, environmental conditions, how and where a worker could fall and the type of rescue that would be needed, among other factors.

Identify the hazards associated with the rescue. This information determines the rescue procedures, what equipment will be required, who will be on the rescue team, and what training the rescue team will need.

Other key considerations include determining how a rescue will be initiated and making sure the appropriate equipment is available and maintained. The ability to respond very quickly and retrieve the worker is essential. Plan for situations where the worker is injured, including procedures for first-aid, medical treatment, and getting the injured worker to the hospital. The quickest route to the hospital should be determined. In locations far from a hospital, additional measures may be needed to make sure a worker can receive appropriate medical attention, as required.

Immediately before work begins, another assessment should be done to ensure that the rescue plan is still appropriate and that no additional hazards or factors have been overlooked.

Check and follow any legislative requirements regarding rescue at heights in your jurisdiction.

What personal protective equipment (PPE) do rescuers need to use?

The required personal protective equipment will depend on the hazards and risks present and should be specified in the fall rescue plan. Common personal protective equipment includes fall protection equipment, head protection, eye protection, high-visibility apparel, gloves, safety footwear, and other equipment. A first-aid kit and rescue equipment and accessories will also be required.

How are hazards identified and risks assessed for a rescue at heights?

Developing a systematic and comprehensive method for [identifying hazards](#) and assessing risk is essential. [Risk assessments](#) should be done well in advance and again immediately before and during the work as conditions can change. The team responsible for developing the rescue plan needs to identify all hazards that may cause harm to workers during the work and a potential rescue.

Hazards may include:

- sources that may damage equipment or infrastructure, such as the presence of high voltage lines, infrastructure damage and debris
- any change or damage that could impact the rescue, such as getting to and retrieving a worker, or environmental conditions (e.g., structural damage, fire, extreme temperatures, wind, ice)
- Uneven ground, for example, if working in a forest

Before starting a task involving working at heights, all workers (including rescuers) should immediately report any concerns to the supervisor. If conditions or factors are a risk to workers or may impact a rescue, this concern needs to be addressed before the work begins. If rescuers have any concerns with their training or the rescue plan, they also need to report this to their supervisor so it can be addressed.

Equipment used by workers and rescuers must be properly inspected and maintained, including before use. Any defective equipment must be replaced.

Once all the hazards are identified and the risks are assessed, appropriate [control measures](#) need to be taken. The [hierarchy of controls](#) should be considered. It is important to continuously review and improve control measures to ensure their effectiveness.

What methods and equipment can be used in a working at heights rescue?

The rescue techniques and equipment must be specific for the working at heights task, including the hazards, where and how the rescue may occur, and other factors. When determining the appropriate rescue procedures, consult with experts on rescue at heights and ensure all rescuers have thorough training and experience with the selected methods. You can also reach out to your local fire department for guidance.

Methods may include self-rescue, ladder rescue, elevating work platform rescue, using the lifeline to retrieve the worker, rescuers rappelling down to retrieve the worker, pulling a worker from an area below, using emergency equipment to reach the worker such as a crane basket or rope rescue.

Methods must be suitable for the location. For example, planning on using a mechanical lift may not be appropriate when working where the ground is uneven (such as a forest) or where other materials may obstruct access to the worker's location.

Always ensure any equipment required to perform the rescue has been inspected and maintained, and can be accessed immediately in the event of a rescue.

What are some important considerations for the anchor system?

Before working at heights, the anchor points need to be evaluated. Make sure the anchors' strength, stability, and location are appropriate for the type of work being done and any potential rescue procedures. Identify which anchor points are to be used for the work and the rescue, and make sure the fall protection system, including the lanyards, lifelines, and anchor connectors, is appropriate.

The applicable [legislation](#) will include requirements for anchor points. The anchor system should be used and installed according to the manufacturer's specifications and may need to be certified by an engineer.

How will the rescue team communicate during an emergency?

During the rescue planning and risk assessment, identify the most effective means of communication. Consider how a worker requiring rescue will communicate with their supervisor and rescue team, and how the supervisor and rescue team will communicate with each other. Methods may include using radios, cell phones, headsets, or direct voice communication. Make sure all workers and rescuers know the communication protocols, including how a rescue will be initiated.

The roles and responsibilities of each team member should be clearly defined and understood, including who is responsible for calling the rescue team and emergency services when a fall occurs.

What kind of training does the rescue team need?

Rescuers require a comprehensive set of skills and expertise which is gained through specialized training and experience. Frequent training, including drills and simulated rescues, is important to ensure the safety of workers and rescuers. They also need to be trained and familiar with the rescue plan and procedures, required equipment, and the hazards associated with the work and rescue. Training should occur multiple times a year and before a specific job requiring a rescue plan begins.

Consult with fall rescue experts to develop a training regimen that is specific to the tasks, work environment, and the types of possible rescue procedures that will be used. Do your due diligence when selecting a training provider. Ask for references and the qualifications and experience of the trainers. Consult the local fire department and [health and safety regulator](#) for additional guidance and to ensure compliance with fall protection [legislation](#).

Rescuers should also receive [first aid](#) and cardiopulmonary resuscitation (CPR) training. All workers and rescuers should also be trained on how to recognize the signs and symptoms of suspension trauma (or orthostatic intolerance) and the appropriate procedures to follow. Signs and symptoms include fainting, nausea, dizziness, trouble breathing, sweating, low or high heart, low blood pressure, paleness, loss of vision, and other symptoms.

Organizations may need to contract the services of qualified rescue experts to help develop a rescue plan and to provide rescue services.

What post-incident procedures should be followed after a rescue?

Make sure the rescued worker receives any required first aid and arrange to have them transported to the nearest hospital immediately after being rescued. Some injuries, especially kidney damage, may not be immediately apparent. If any other worker or rescuer is injured, ensure they receive the appropriate treatment.

All other workers should remain in a designated safe area and follow the supervisor's instructions. Determine if there are any remaining risks to workers and rescuers and take the appropriate action. Bystanders and coworkers may experience stress or be upset about the event. Provide appropriate mental health services to all.

[Investigation](#) procedures should be developed and followed, including documenting critical information and securing the area, if needed. Any fall protection equipment that was used should be inspected and discarded as required. In addition to investigating the cause of the fall and rescue, the worksite-specific rescue plan should be evaluated and updated as needed.

There may be reporting requirements to the health and safety regulator and workers' compensation board. Make sure to follow any other legal requirements for your jurisdiction.

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