



## Suspension Trauma

Imagine you are the supervisor of a construction site, and one of your newest employees is wearing a fall arrest harness while moving roofing materials on top of a building. Unable to clearly see equipment lying on the roof in front of him, he trips, falls off the roof, and is suspended in the air by the harness.

The harness has stopped the worker's fall, but immediate rescue is critical. Being suspended can cause suspension trauma, which could result in serious injury. Death can occur in as little as 10-to-15 minutes.

Suspension trauma includes these symptoms:

- Losing consciousness within three to five minutes.
- Dizziness, nausea, paleness, or narrowing of vision.

Does your employee know what to do next? Do his coworkers know how to rescue him?

### What the employee who works with fall arrest harnesses needs to know:

If you are suspended in a fall arrest harness, you need to be rescued immediately. But, there are some things you can do to keep your blood circulating while your coworkers rescue you.

- Deploy the foot straps.
- Once deployed, push feet against the foot straps.
- Pump legs to activate the muscles – this keeps blood circulating.
- Push off against the building, if it's nearby. As the worker swings away from the building, he will eventually swing back toward it, and can push off again.
- If foot straps are not available, the suspended worker should continuously pump his legs and push off the building.

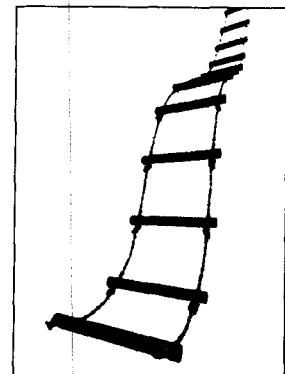
### What your employees need to do to initiate a rescue:

You should have a plan specific to the challenges of each job site. You will need to hold a fall protection planning meeting before you start work at any specific location.

When a fall occurs, call 9-1-1 right away. One person does this, while the other workers immediately begin rescue procedures according to your fall protection plan.

Rescue must be quick to prevent the suspended worker from losing consciousness. Maintain regular communication and encourage him to continue moving his legs. Find out if he is experiencing any symptoms such as faintness, dizziness, nausea, paleness, or narrowing of vision.

Depending on the height of the building, you can use stepladders as long as they extend from the ground to the roof of the building. If someone falls and is suspended in the harness, co-workers can move the ladder to a position where the worker can access it and make their way to safety. For taller buildings, an aerial lift can be used to retrieve a worker. You can also mount a flexible safety ladder to the top of the building and throw it to a suspended worker, who can then grab hold of it and climb to safety.



After completing the rescue, follow these steps until emergency crews arrive:

- Stay with your injured colleague and keep him in a seated position with legs out in front.
- Do not lay him flat in a horizontal position.
- Keep him calm and quiet.
- If the worker is unconscious, keep his air passages open.
- Follow any instructions given by the 9-1-1 operator.

### At your safety meeting:

Talk to your employees about suspension trauma, and address any concerns they might have about working from heights:

#### Does your safety harness have foot straps?

- Foot straps help prevent suspension trauma by improving blood flow and circulation.

- Do they know how to recognize the symptoms of suspension trauma?
- Do they understand how the harness is supposed to fit?
- Do they know how to adjust the harness for the particular job to minimize the fall height and the swing?
- Do they know how to deploy the foot straps?
- Do they know how to use the stepladder or safety ladder?
- Do they understand your rescue plan?
- If you have an aerial lift on site, do your employees know how to use it?
- Have you practiced your rescue plan?

Reinforce that time is of the essence and how regular movement and use of the foot straps can provide more time for the rescue operation. You might also consider holding a safety demonstration at your worksite and practice your emergency response plan.

- Foot straps keep the Safety Harness Topic cutting into the workers' legs.
  - Worker stands in the foot traps until they can be safely rescued.
  - Improved circulation provides more time for rescue procedures.
  - They're easy deployed.
  - Not all harness come with foot straps.
  - Available for separate purchase.
  - Stored in a small pocket on the side of the harness.
- NOTE:** Fall arrest harnesses may not be re-used following a fall. The foot straps may be re-used.

When working at heights, employees are at a greater risk for serious or fatal injury. The additional steps you take to prepare for a fall can literally be the difference between life and death.

Investing in a quality harness and the foot straps along with the time to conduct safety demonstrations, makes a statement to your employees that you are serious about their safety.

#### RESOURCES

WorkzoneSafety.org: Preventing Suspension Trauma

Cal/OSHA: Personal Fall Arrest Systems, Personal Fall Restraint Systems and Positioning Devices

OSHA: Suspension Trauma/Suspensión Trauma

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