



TOOLBOX TALK



SUSPENSION TRAUMA

Personal fall protection is important when you perform job tasks at heights. Even if you fall and your fall protection equipment saves you, you may be suspended in the air for several minutes. During this time, blood can pool in your legs, deprive the brain of oxygen, and cause suspension trauma or orthostatic intolerance, which is the development of symptoms when standing upright which are relieved when sitting back down again. If you are not rescued promptly and with correct procedures, suspension trauma can have lasting effects and even cause death.



RIGHT **WRONG**

Symptoms of Suspension Trauma:

- Faintness and nausea
- Sweating and paleness
- Narrowing of vision

Avoiding Suspension Trauma or orthostatic intolerance:

- When suspended there are techniques that can help pump your leg muscles, such as tensing and relaxing them and straightening them, 'bicycling' or 'running' while suspended, and pulling them up to a "sitting position."
- Maintaining these exercises may be very difficult after a fall, so ask for foot straps to your fall protection gear that can support the legs and give you something to strain and push against. Or make knot a loop in the lifeline with a non-slip knot at knee level and use it to step out of suspension.

Avoiding Reflow Syndrome:

If you are suspended in fall protection gear, you will be hanging straight up with your feet dangling. Holding this position for a long period of time can lead to orthostatic intolerance and you may faint. You will not, however, fall to a horizontal position, and your blood will continue to pool. Your inactive leg muscles will use up the oxygen in the pooled blood and begin to burn fats to stay alive. If you are suddenly put into a horizontal position, such as during a rescue, this deoxygenated blood can flow back into the body (reflow syndrome) and cause damage to your organs, brain, and even cause your heart to stop.

Body Harness Fitting:

Numerous field inspections have revealed that body harnesses are worn inappropriately – in many instances they are worn too loose, especially the leg straps which at times are found adjusted to the end of the webbing. In the event of a fall, an improperly worn harness may lead to injury or death.

- "Snugly adjust all buckles starting with leg straps, then waist, shoulders, and chest. Always adjust harness from the leg working up the harness."



NOT Acceptable



Acceptable

Rescue Procedures:

- Pay close attention to the rescue procedures that are appropriate to suspension trauma and to prevent reflow syndrome.
- Have a plan in place to rescue suspended workers quickly and get them immediate medical attention.
- When rescuing a suspended worker, do not lay them flat into a horizontal position. This may cause "reflow syndrome"
- Keep the victim sitting up with their legs straight out in front of them.
- Keep the worker calm and quiet and monitor them constantly so they do not faint and fall into a horizontal position.
- Get a rescued worker immediate medical attention and ensure that medical personnel are aware of the possibility of suspension trauma.
- Don't leave safety hanging. Learn proper prevention and prompt rescue techniques to prevent suspension trauma.

DO

- Learn techniques and exercises to help pump your leg muscles for proper blood flow.
- Add foot straps to your fall protection gear to support the legs and give you something to strain and push against.
- Ensure a proper fit of the body harness. Snugly adjust the straps starting from lower to upper (legs, waist, shoulders, then chest).
- Call 911 immediately when someone is noticed to be suspended.
- Ensure that medical personnel are aware of the possibility of suspension trauma.
- Keep the rescue worker sitting up with their legs straight or in the 'W' position (knees bent and toward the chest) following out in front of them following a rescue.
- Assist co-workers when fitting a body harness.

DON'T

- Do not lay the worker flat into a horizontal position after a rescue.
- Do not leave safety hanging.
- Do not allow a coworker to fall asleep.
- Do not allow a coworker to borrow other fall protection.

equipment that is not their own.

REVIEW QUESTIONS

1. What are symptoms of suspension trauma?
 - a) Nausea, fainting, sweating, and narrowing of vision**
 - b) Singing songs while suspended
 - c) Talking on the cell phone
 - d) Applying sealants when suspended
2. A body harness should be loose before entering a fall zone
 - a) True
 - b) False**
3. Following a rescue, what should you do?
 - a) 10 Feet
 - b) 25 Feet**
 - c) 50 Feet

Talk Given By:	Date:
Company Name:	Location:
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Under the Occupational Safety and Health Act, employers are responsible for providing a safe and healthy workplace and workers have rights. OSHA can help answer questions or concerns from employers and workers. OSHA's On-site Consultation Program offers free and confidential advice to small and medium-sized businesses, with priority given to high-hazard worksites. For more information, contact your regional or area OSHA office, call 1-800-321-OSHA (6742), or visit www.osha.gov.

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