

UTCA Safety Committee



Fall Protection

Protect workers from suspension trauma

While fall protection is designed to save a worker's life, it also can create risks in certain situations. If a worker is suspended for too long, he or she may develop what is known as orthostatic intolerance. Often occurring when individuals remain immobile for extended periods of time, orthostatic intolerance is caused by venous pooling, or the accumulation of too much blood in the veins, which reduces the flow of oxygenated blood to the heart and brain.

According to OSHA, venous pooling most often occurs in the legs due to a combination of immobility and gravity. When this happens to someone in a standing position, the victim loses consciousness and falls to a horizontal position, placing the heart, legs and brain on the same plane and normalizing blood flow.

However, if a worker who falls and remains suspended upright in a harness develops orthostatic intolerance, the body's natural response will be hindered. Because the worker cannot fall to the horizontal position and normalize blood flow, serious health problems – even death – can occur. This is known as harness-induced pathology or, more commonly, "suspension trauma."

Recognizing the signs

Suspension trauma is a rare occurrence, but it is important to know the warning signs to reduce the hazard. According to OSHA, a worker suffering from this condition may experience:

- Faintness
- Breathlessness
- Sweating
- Paleness
- Hot flashes
- Increased heart rate
- Nausea
- Dizziness
- Unusually low heart rate
- Unusually low blood pressure

Although the immobility of the limbs causes orthostatic intolerance, the condition can be exacerbated by a number of other factors, including the positioning of the fall protection harness, the worker's physical health, hydration levels, and shock or other injuries stemming from the fall. Workers who have lost consciousness or suffered a head injury are at particular risk.

Prevention

Companies with jobs that require fall protection should have in place a protocol to prevent prolonged suspension, and should include training on recognizing and avoiding orthostatic intolerance. OSHA mandates that workers using fall arrest devices be trained on how to use them properly, and recommends workers also be taught:

- How to properly fit fall protection devices and other personal protective equipment
- How to recognize signs of orthostatic intolerance
- How to recognize factors that might increase risk
- How to quickly rescue a suspended worker to diminish these risks

Safe, prompt rescue is the key to preventing suspension trauma. If a rescue is not possible in a timely fashion, instruct suspended workers to pump their legs frequently to maintain blood flow and prevent venous pooling. While suspended, workers should be continuously monitored for any signs of orthostatic intolerance.

Once rescued, the worker should be carefully evaluated by a health care professional. Often, orthostatic intolerance can cause delayed internal effects such as kidney failure, which can be difficult to assess at the worksite.

Source: www.nsc.org

Date: _____ **Attended By:** _____

