

Harness Hang Syndrome

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Fall arrest systems should not be used if at all possible. Attempts should be made to find a workaround that uses one of the steps further up on the Hierarchy of Fall Protection - fall restraint or passive fall protection.

If fall arrest systems are the only option for the task at hand then workers should be trained on how to bring a fallen worker to safety quickly, especially if the worker is unconscious. The reason is the possibility of harness hang syndrome, which also goes by the names “suspension trauma” and “harness hang”. This is a serious situation that can occur quickly when the body is held upright without any movement for a period of time. If a worker is strapped into a harness he/she will eventually faint. If the person faints and remains vertical, oxygen is not getting to the brain and death is possible. Harness hang syndrome can begin just a few minutes after the fall.

In more scientific terms, blood accumulates in the leg veins (venous pooling) and if the individual moves suddenly after being sedentary for a long time orthostatic intolerance can occur. Orthostatic intolerance is the development of symptoms during hanging upright that are then exacerbated upon reclining. During severe venous pooling, the reduction of oxygen content in the blood flowing to the brain causes fainting. This can have an effect on other organs including kidneys. The kidneys are very sensitive to blood oxygen so with excessive venous pooling renal failure can occur.

Other factors that play into this sort of injury are: the positioning of the harness, jobsite conditions, shock, any other injuries, and the worker’s psychological state. These circumstances can work together to increase the severity of the pooling and orthostatic intolerance. A fallen worker must be rescued within several minutes using proper safe procedures so that venous pooling and orthostatic intolerance does not result in a serious or fatal injury.