



H S E

HEALTH SAFETY ENVIRONMENTAL



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Suspension Trauma Straps

What is Suspension Trauma?

Suspension trauma, also known as harness hang syndrome and orthostatic intolerance, occurs after a worker has fallen into a fall arrest harness and is suspended in a hanging position until rescue arrives. When hanging in a fall harness, the leg straps support the body's weight. During this time, the leg straps of the fall protection harness crush the femoral arteries on the inside of the legs, cutting off blood circulation.

Additionally, when the leg muscles are relaxed, veins in the legs can expand dramatically (known as vasodilation). Because the leg muscles are not being used to stand up, they are not contracting and therefore not preventing the veins from expanding. This lack of constriction from the leg muscles allows blood to gather in the legs rather than returning to the heart and lungs for recirculation, an effect known as venous pooling. Without constraint from the leg muscles, the expansion of blood veins in the legs can result in a 20 percent loss in blood circulation. The loss of circulation causes the heart to work harder to keep the brain and vital organs supplied with blood. This results in nausea, unconsciousness, and a drop in blood pressure and heart rate. This part of suspension trauma is the onset of circulatory shock.

Trauma Straps

Fortunately, there is a simple solution to protect against suspension trauma: personal protective equipment known as trauma straps. Trauma straps are a pair of straps, one with hooks in it and the other with loops for the hooks to attach to. They are coiled up in pouches and attached to the fall harness. When a worker falls and comes to rest, he would uncoil the straps and brace his weight against the straps. This allows the fallen worker to stand up in his fall harness, utilizing his leg muscles, taking weight off of his arteries, and restoring blood circulation until help arrives. Because of this, it is important to have trauma straps on all fall protection harnesses.

Recently, we have discovered some harnesses without the required Trauma Suspension Straps attached to the harnesses during routine inspections. Trauma Straps are a critical required component of the personal fall protection system and shall be inspected and confirmed in place before use as per GIS's Fall Protection Inspection Checklist.

If during inspection harnesses are found without these straps, please have them sent out to your location. These straps will be accompanied by a Technical Data / Instruction Sheet. If this sheet is not with the order, the sheets can be found here.

<https://safewaze.com/wp-content/uploads/2024/09/220-00119-FS902-Manual-V2.pdf>

<https://safewaze.com/wp-content/uploads/2024/09/220-00119-FS902-TDS.pdf>

If you should have any questions or concerns regarding this, please contact the Corporate HSE Department.

***Report all incidents immediately to the Hotline
1-855-543-5163.***

SAFETY ALERT