

Suspension Trauma

Suspension trauma, or orthostatic intolerance, is a natural human reaction to being upright and immobile, where blood pools in the legs leading to unconsciousness. It can be caused by suspension in a harness (deliberate or accidental), when trapped in a confined space, when secured to a vertical stretcher or litter – any situation where you are forced to stay upright without standing. If it is allowed to develop unchecked, it can be fatal.

With the use of a fall-arrest system, suspension trauma may occur when a person has an arrested fall because they are suspended and are caught in an upright, vertical position and the harness straps cause pressure on the leg veins. The blood flow to the heart is reduced, resulting in fainting, restriction of movement or loss of consciousness in a few minutes. This may lead to renal failure and eventually death, depending on a person's susceptibility. The condition may be worsened by heat and dehydration. A person suspended in a harness from the rear dorsal ring is also vulnerable to asphyxiation; should fainting occur the head falls forward and the airway is blocked.

In clinical trials, although some subjects experienced no effects after prolonged suspension, others experienced fainting or loss of consciousness in just a few minutes. The initial indications are that a person's susceptibility may be unrelated to fitness level or any other physical condition or attributes. Therefore, the quick rescue of a person suspended in a full body harness, as soon as possible, is vital. For this reason, workers should be capable of conducting a rescue of a fallen worker and be familiar with onsite rescue equipment and procedures.

Suspension relief straps offer short term relief only and the correct approach is to have a pre-rigged rescue kit such as a SpanSet Gotcha, along with trained personnel to deal with a potential emergency.



SG238 Suspension Relief Straps

- 1 Locate, unzip and deploy each case containing the suspension relief straps.
- 2 Raise the ends of the two straps to reach the hook and loops. Fit the hook through the loop that will give you the required length and lower the straps.
- 3 Step onto the strap to relieve the pressure on the legs and groin. Repeat step two and three if the length is not suitable.

