

Technical Bulletin

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Suspension Trauma

Suspension Trauma is a term used to describe the potential after-effects of immobile suspension within a full-body safety harness following a fall from height. The term is often used synonymously with the terms Suspension Intolerance, or the more commonly known medical terms Orthostatic Intolerance, Orthostatic Shock or Orthostatic Incompetence. An informative note on this topic is detailed in the most recent update of AS/NZS1891.4:2009.

There are wide-ranging views in industry regarding the level of personal risk associated with the condition. The most important point to note is that the rescue of a person as soon as safely possible is highly recommended to remove the risk of pre-syncope conditions affecting the suspended person.

In previous training activities, Capital Safety has recommended that a person suspected of suffering the effects of suspension trauma should be placed in a seated position following the rescue, with knees elevated, prior to laying them down in a horizontal or prone position (or recovery position in first aid parlance). This action was intended to slow the movement of the pooled blood from the legs back to the upper part of the body and reduce the risk of internal injury. This advice was provided on the basis of the best information available at the time.

Suspension Trauma has recently been reviewed by the Australian Resuscitation Council, including reference to international literature reviews on the matter and they have released *Guideline 8.25 Harness Suspension Trauma – First Aid Management* in response. A copy of this advice is appended to this bulletin. A copy of the Guideline 8.25 may also be found on Australian Resuscitation Council Web site www.resus.org.au

The guideline differs from previous advice offered by Capital Safety in that the interim step of placing the victim in a seated position prior to laying them flat is not considered necessary. The advice also quotes literature review references and based on a level of evidence and consensus of expert opinion, that because of the lack of documented research regarding the post rescue treatment (supine vs seated), altering standard first aid principles away from treating the airway first could be detrimental to patient survival. This is particularly relevant when the victim is unconscious. The Australian Resuscitation Council recommends the following patient management steps in Guideline 8.25:

- (1) Call for an ambulance – dial triple zero - 000
- (2) If unconscious, manage as per ARC Basic Life Support flow chart (Guideline 7)
- (3) Rest the conscious victim in a position of comfort, ideally lying down, and provide reassurance
- (4) Loosen or remove harness
- (5) Administer oxygen if available
- (6) Look for and manage associated injuries in all victims, but particularly victims who may have fallen or been electrocuted.
- (7) Monitor the signs of life at frequent intervals

References listed in Guideline 8.25 are as follows:

1. Turner N.L., Wassell. J.T., Whistler R., Zwiener J, Suspension tolerance in a full-body safety harness and prototype harness accessory.(Evaluation studies, Journal article) Journal of occupational & Environment Hygiene.5(4): 227-31,2008
2. Lee C., Porter K.M. Suspension trauma. (Journal Article). Emergency Medicine Journal 24(4):237-9,2007



Capital Safety • 20 Fariola Street • Silverwater, NSW 2128 • Phone 02 9748 0335 • Fax 02 9748 0336

3. Adish A., Robinson L., Codling A., Harris-Roberts J., Lee C., Porter K - Evidence based review of the current guidance on first aid measures for Suspension Trauma. Health and Safety Executive. Research report RR708. May 2009.
[Http://www.hse.gov.uk/research/rrpdf/rr708.pdf](http://www.hse.gov.uk/research/rrpdf/rr708.pdf)

Capital Safety is pleased that the Guideline 8.25 has been released, offering a First Aid Management system for the care of a victim that may be suffering with suspected Suspension Trauma conditions and recommends that this guideline be used in future accordingly.