Put Suspension Trauma in Proper Perspective

Regarding the March 2003 Occupational Health & Safety article "Will your Safety Harness Kill You?", the American National Standards Institute (ANSI) Z359 Committee on Fall Protection and Related Systems would like to clarify the causes and risks associated with motionless harness suspension and trauma. While the committee agrees with many of the observations and recommendations made therein, there are several points that deserve clarification:

1. The article stated that suspension over 5 minutes in a safety harness can cause death, citing Paul Seddon’s report to the Health and Safety Executive (UK) entitled, Harness Suspension: Review and Evaluation of Existing Information. The UK report clearly documents the existence and importance of suspension trauma, but also shows that the related risks stem from motionless suspension (e.g., worker is unconscious or incapacitated) and not from suspension in the normal course of work. Because this important distinction is not made clear in the article, readers might mistakenly conclude that any suspension over 5 minutes can lead to death. Such a conclusion would conflict with the advice given in section 1.6.1 of the UK report that states "... anyone who is suspended in a harness may be at risk of suspension trauma if they were to hang motionless in the harness" and "... leaving an unconscious person suspended on a rope can cause death in less than 10 minutes."

2. The article also provided two hypothetical examples of how workers might die as a result of suspension trauma, but neither example provided a clear picture of how suspension trauma may have contributed to the worker’s death, nor is motionless suspension mentioned as a chief risk factor. When examples of deadly risk factors are given, a more detailed analysis should be used to reduce the opportunity for misinterpretation. This might have been done in the example of the carpenter’s death by mentioning that he sustained a head injury in the fall, causing loss of consciousness. Because he was working alone (i.e., had no rescue plan), and was suspended for more than 15 minutes while unconscious, he eventually died due to suspension trauma. The research shows that the level of risk to the worker suspended after a fall becomes more severe if the worker is unconscious or incapacitated by other trauma.

3. It is important to keep what is known about suspension trauma in perspective. The UK report states that over 5.8 million on-rope hours have been logged by qualified IRATA rope access technicians without any reported incidents of suspension trauma. Several deaths that occurred in caving and mountaineering are discussed in the
report, but many of these had additional contributing factors such as prolonged suspension (several hours), harsh environment, and lack of harness. The death of a soldier in first aid training is discussed briefly, but he was "left unobserved for about six minutes," suspended only by a strap around the thorax (it is not stated how long the soldier hung before he was left unobserved). The UK report does not document any worker deaths caused by suspension in a harness, but it does show an urgent need for education and action regarding suspension trauma. For more information on suspension trauma, Paul Seddon’s report to the HSE may be downloaded at http://www.hse.gov.uk/research/crr_htm/2002/crr02451.htm
Issues related to suspension trauma are currently under consideration by the Z359 committee. The committee is currently revising the Z359.1 standard, and may be approved by fall 2004. The revised standard will address training, use, and equipment specifications for personal fall arrest, work positioning, travel restraint, and rescue systems. For more information, please contact the Z359 secretariat, the American Society of Safety Engineers (ASSE), at 847-699-2929, attention Patrick Arkins.

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Chair, Z359 ASC

Support for Thermal Imaging Fundraising
In the July (2003) issue of Occupational Health & Safety, the letter from the editor introduced the Firefighters Save-A-Life Fund, an effort by Patrick Walsh to lead fundraising activities on a national level for the purchase of thermal imagers. While we commend Mr. Walsh's effort to raise money for the purchase of this critical technology, we take exception to his point about the program being the only one in the country.
E.D. Bullard Company, the leader in thermal imaging technology for the fire service, has recently made a major investment in development of free fundraising instruction and support materials that will help departments and civic clubs manage local TI fundraising campaigns. With this support, we hope to greatly increase the number of fire departments able to acquire these critical tools.
We believe that fundraising is best handled at the local level. The inSIGHT(tm) program offers instructional materials that coach department leaders and community leaders on the keys to managing the four fundamentals of thermal imager fundraising: building a team, planning a campaign, conducting a technical demonstration, and involving the local media.
The inSIGHT support materials help firefighters and community leaders reach potential donors effectively, through group presentations, media relations, and direct mail. Departments around the country are now leading local fundraisers with these
materials to guide and support their efforts. Early indications are that this award-winning program is working.

If you would like to learn more about our inSIGHT program please email me at john_hays@bullard.com.

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**Investigate Training Requirements**

I read the article ("Torn Over Training?", page 80, November 2003) and have a concern that the information may be misleading some readers. Although computer-based training (CBT) can mean significant cost savings to employers, OSHA has held a stand for several years that off-the-shelf, generic training should only be used as a base on which to build. Job-specific or facility-specific hazards and related safety training must address those hazards. OSHA has an interpretation (http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=22425) that cautions employers to thoroughly investigate the training requirements detailed in the OSHA standards and design their safety training curriculum accordingly.

As a former OSHA Compliance Officer, I can attest that during an OSHA inspection, and when a Compliance Officer interviews employees, if there is only general employee safety knowledge of specific procedures or operations, citations for non-compliance of the training requirements will be issued. And, if there is a serious injury, illness, or fatality, the appropriateness and adequacy of the employee's training will be challenged.

Please direct your readers to this OSHA interpretation before suggesting they rely solely on computer-based training.

David R. Hunter
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**Better Guides Would Help 'Clear the Air'**

The John B. Vincent article ("Let's Clear the Air on Respiratory Protection," page 42, November 2003) was a good overview, but no good links to written program boilerplate or to cartridge change calculation software that respirator manufacturers have available for download (North too, I suspect).

The referenced OSHA small entity guideline is just about not worth the paper (considerable) that it's printed on (unless edited lately, which I doubt). A good
website that has links to sample boilerplate required and voluntary (not mentioned in
the article) written programs is available through the Washington State Department
of Labor & Industries, Washington Industrial Safety and Health Administration
(WISHA), a state OSHA program: http://www.lni.wa.gov/wisha/.
Select "Respiratory Protection" on the drop-down menu and scroll to "Resources" to
find the link to the sample programs. Non-Washington employers will need to
substitute CFR cites for the Washington Administrative Code (WAC) references in
the samples.

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