

BWEA H&S 08



HEALTH AND SAFETY SEMINAR

29 JANUARY 2008 MANCHESTER UK

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# Suspension Trauma the do's & don'ts

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The heightec Group 2008

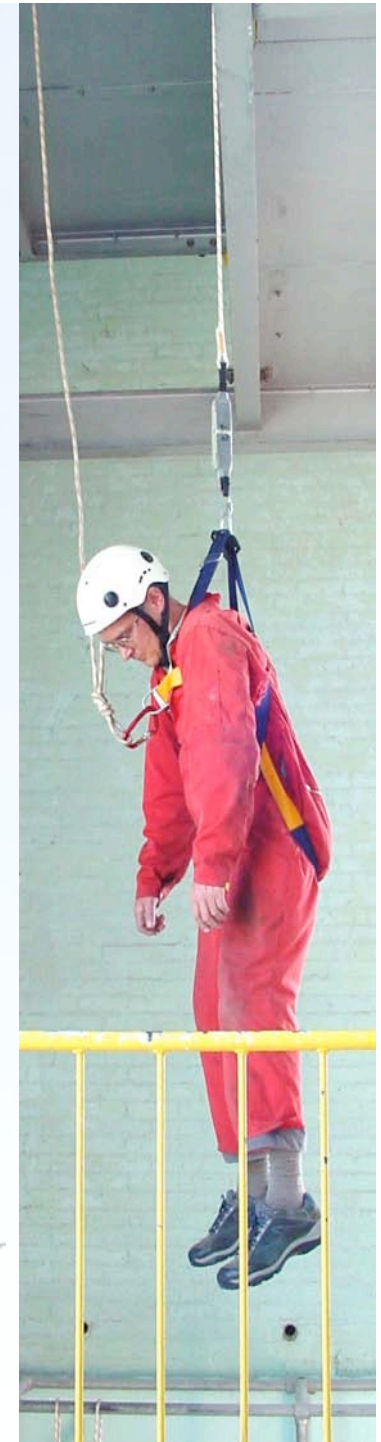
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# What is Suspension Trauma?

It is the body's natural reaction to being held in an upright position, standing, held or suspended.

**It will happen to everyone,**  
you don't need to be ill or injured –  
simply standing still and unable to fall over can cause it!

Our blood supply and heart cannot cope very well with standing up - gravity pulls blood into the tissues of our legs, and the heart cannot pump it back.

Eventually, if enough blood pools in the legs, we will faint. This is fine, so long as we fall over - the blood all rushes back - but if we can't fall over, then we die. It's that simple!

# What is Suspension Trauma?

In normal life you can stand & work and not risk death from S.T, this is because our leg muscles can pump the blood back upwards, provided you are able to **move** your legs.

When we walk about this works very well.

Standing still it's less effective, and sometimes we faint.

We will faint if standing or suspended & are unable to use our legs at all.

Here comes the problem - if you faint, you really need to fall over right away. Stay in the same position, and your brain has no blood or oxygen supply.

## How long have you got?

If your legs are perfectly still, then you can start feeling the first signs of shock in as little as 3 minutes. The average is between 5 and 20 minutes.

You will faint a few minutes after that, and if you are not allowed to lie down **straight away** then your brain can start to die a few minutes later.

**So, worst case scenario you could be dead in 10 mins.**

Actually, less than that - once you faint, you lose control of your airway and if your body is upright you can choke on your tongue and suffocate in a matter of seconds.

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## Who can it affect?

Anyone who could faint and not fall over.

From a WTG view, field staff working in industrial harnesses are all exposed to higher risks of suspension Trauma.

Anyone who is secured to a vertical surface for any reason (rescue stretcher) may also be at risk.

The most famous, example of suspension trauma is crucifixion

In any of these situations if you are not using your legs for support, or are unable to move them, then you will eventually faint.

If you live or die depends simply on how quickly you fall over - preventing that from happening will of course kill you.

## Does changing harness type help?

The simple answer is NO, we know that we are working against gravity. Gravity will always win.

However a well fitting harness designed for the specific work task can slow the onset of Suspension Trauma

That said there have been a number of imported harnesses with webbing thinner than the 40mm required in EN 361, excessively thin webbing will cause more acute circulation restriction than 40mm & above webbing.

Work seats for prolonged suspension can increase suspension time

**How does this relate to the Wind Industry?**



- We all have staff who need to work at height
- Some staff will need to use fall protection equipment
- Some will use harnesses for restraint, work position or fall arrest
- All are potentially at risk from Suspension trauma
- But it's Ok because we all have Rescue plans in place, don't we?



# Can we avoid Suspension trauma?

- Simple never work at height in a harness!
- In the real world though.....
- Well planned work tasks with rescue plans, training & equipment are the safest way.



# Now I'm suspended what should I do?

- Unless you are moving about for some other reason, lifting your legs into a sitting position is the best plan, and the easiest.
- Try to avoid being 'upright and immobile' for more than a few minutes at a time, and if you feel ill, get out of the position straight away!
- *Never* leave anyone alone who may be at risk of Suspension Trauma
- A sitting position is best, like on your chairs now, no one has fainted to death yet have they?

# Rescue what now?

- Call for help
- Safeguard rescuer
- Prompt Rescue / Evacuate to ground
- Keep in seated position / knees raised
- Do NOT lie casualty flat
- Keep sat for 30min after rescue
- Administer 100% Oxygen
- Remove to hospital

# Suspension Trauma Products

- There are a number of retro fit foot loops available, designed to allow the casualty to stand up & 'pump' the legs while waiting for rescue



# Suspension Trauma Lanyard

- The Heightec suspension trauma lanyard features the only integral, automatically deploying foot loop available on the market.
- Able to provide immediate relief to a suspended person to prevent the onset of suspension trauma.
- The product is small, light and totally unobtrusive. Being integral to the energy absorbing lanyard, it cannot be lost, forgotten or incorrectly fitted.



# Summary

- Plan work tasks to avoid suspension
- Plan & train for prompt rescue
- Use well designed & well fitting harnesses
- If rescue is prompt encourage leg 'pumping'
- Use structure surface or foot loops
- Rescue in seated position
- Do not lie flat
- Requires medical after care

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# Thank You

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